BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Expanding Consumers' Video Navigation Choices	)	MB Docket No. 16-42
	)	
	)	
	)	
Commercial Availability of Navigation Devices	)	CS Docket No. 97-80

COMMENTS

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EXECUTIVE SUMMARY

The American Cable Association ("ACA") represents approximately 750 smaller cable operators, incumbent telephone companies, municipal utilities, and other local providers of multichannel video programming services ("MVPD services" or "pay-TV") that serve smaller communities and rural areas or compete with much larger multichannel video programming distributors ("MVPDs") in urban and suburban markets. In aggregate, these providers pass nearly 19 million homes and serve nearly 7 million homes – or less than 7 percent of the MVPD market. The vast majority of ACA members have fewer than 5,000 subscribers, and half have fewer than 1,000 subscribers.

While their smaller size limits their ability to develop their own navigation devices for their subscribers, in recent years ACA members have been working with TiVo, Roku, and other device vendors to integrate these vendors' devices into their systems. These devices give their customers the ability to seamlessly access pay-TV and over-the-top programming. ACA members also provide millions of set-top boxes, on which most of these providers make little, if any, margin. Finally, ACA members operate systems which today would be non-compliant with the Federal Communications Commission's ("Commission's") proposed regulations in the Navigation Device Notice of Proposed Rulemaking (MB Docket No. 16-42, CS Docket No. 97-80 ("Navigation Device NPRM")). It is clear they would incur substantial costs to come into compliance even if the exact costs may be unknown and not calculable at this time (which they are not). ACA members thus have a large stake in the *Navigation Device NPRM* and the Commission's proposal.

The *Navigation Device NPRM* states an intention to "assure the commercial availability" of "equipment used by consumers to access multichannel video programming" pursuant to

Section 629 of the Communications Act.[1] But the *Navigation Device NPRM* goes "off the rails" from the outset, leading it to propose regulations that are poor policy, contrary to the public interest, and outright unlawful. The Commission should decline to adopt its proposal for a great many reasons, including:

- Relying on scant and misleading evidence, the *Navigation Device NPRM* contains unwarranted assumptions that consumers lack choices and pay excessive fees for navigation devices which turn out to be erroneous.

- Based on unspecified and untested technologies, the Commission proposes to require MVPDs to disaggregate their networks and adopt a security protection system which would impose excessive costs on smaller MVPDs, including the costs of (a) complying with the requirements to provide the three information flows and a compliant security system, (b) reviewing, amending, and ensuring compliance with content agreements, (c) ensuring third party devices meet public interest obligations, and (d) maintaining network security. These counterproductive requirements would severely reduce, if not eliminate, cash flow for smaller MVPDs, leading to cut-backs in developing new video programming services and upgrading broadband plant that ultimately harm consumers. Some smaller MVPDs may be forced to exit the video business altogether as a result. Any hoped for benefits for consumers from the Commission's proposal will be illusory, and it is more likely consumers will be confused and frustrated by purchased devices that do not perform as the Commission theorizes.

- Misreading its statutory and constitutional authority, the Commission proposes rules that are unlawful.

    - Section 629 requires the Commission to address the availability of retail devices that can receive multichannel video and other services "offered" and "provided" by MVPDs. It does not authorize the Commission to mandate that MVPDs disaggregate their information flows to enable services provided by third parties. Nor does Section 629 authorize regulations concerning software in addition to equipment. The Commission may regulate physical devices only.

    - The proposal also is legally infirm as a constitutional and statutory matter, because the Commission improperly delegates its statutory and constitutional authority to Open Standards Bodies. Although the Commission must consult with standards bodies to assist in developing specifications, it may not delegate authority to establish those standards to a private body. Should an Open Standards Body develop a standard, before that standard can become a requirement, it must be subject to notice and comment rulemaking and formally

[1] 47 U.S.C. § 549.

incorporated into a Commission rule. Otherwise, any attempt to enforce adherence to that standard would run afoul of non-delegation principles and the of the Administrative Procedures Act's requirement that rules be adopted only after adequate notice and opportunity for comment.

To make matters worse, because MVPDs are providing their subscribers with access to video programming from their traditional pay-TV and over-the-top services "anytime, anywhere, over any device," the Commission has a readily available alternative to the *Navigation Device NPRM's* proposal that would benefit consumers and not harm programmers or MVPDs: enable a new, straightforward, and well-tested downloadable security solution. Instead, the Commission "rolls the dice" on an experimental and far reaching disaggregation proposal of dubious legality, one that will impose substantial costs on smaller MVPDs, reduce subscriber benefits, and lead to customer confusion. ACA thus opposes the Commission's proposal.

Should the Commission nonetheless conclude that it has authority to adopt its proposed navigation device regulations and move ahead to an order, ACA submits the Commission would achieve the goals set forth in the *Navigation Device NPRM* by applying the regulations only to larger MVPDs because:

- These larger MVPDs (a) serve over 93 percent of pay-TV subscribers – far higher than the amount needed for a technology to become self-sustaining and create further growth, and (b) have traditionally been the first providers to deploy new equipment; and
- Smaller MVPDs, many of whom are already integrating third party devices into their systems, will often adopt the same technologies as larger MVPDs after larger MVPDs prove them out and the technologies become generally available at lower costs.

ACA also notes that not applying the rules to smaller MVPDs would serve the public interest because these MVPDs would be unduly burdened, increasing the likelihood they will exit the video business, harming their subscribers.

ACA specifically proposes that the Commission refrain from imposing its proposed regulations on small multichannel video programming systems, those with fewer than 600,000 subscribers and not affiliated with either (i) an MVPD either serving more than one percent of all MVPD subscribers; or (ii) an MVPD or any entity with an attributable interest in an MVPD of 50 percent or more that has a market capitalization of greater than $100 billion. ACA bases its request on a cost analysis that validates that small MVPD systems of small MVPDs would be financially burdened by the proposed regulations. Further, ACA's approach is modeled on that used by Congress and the Commission to afford smaller cable operators relief from undue regulatory burdens.

The Commission has the authority to limit rules to larger MVPDs only. The Commission acknowledged this authority to limit the applicability of its regulations under Section 629 in the "Plug & Play Orders," when in 1998 it declined to impose the integration ban on DBS services and in 1999 when it exempted analog-only equipment from compliance with the integration ban as well, finding in each instance that applying the ban was unnecessary to achieve statutory objectives.

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COMMENTS

The American Cable Association ("ACA") hereby submits its comments in response to the Notice of Proposed Rulemaking adopted by the Federal Communications Commission ("Commission") in the above-referenced dockets.[2] ACA represents approximately 750 smaller cable operators, incumbent telephone companies, municipal utilities, and other local providers of multichannel video programming services ("MVPD services" or "pay-TV") that serve smaller communities and rural areas or compete with much larger multichannel video programming distributors ("MVPDs") in urban and suburban markets. In aggregate, these providers pass nearly 19 million homes and serve nearly 7 million homes. The vast majority of ACA members have fewer than 5,000 subscribers, and half have fewer than 1,000 subscribers. These smaller

[2] *In the Matter of Expanding Consumers' Video Navigation Choices*, MB Docket No. 16-42, *Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Notice of Proposed Rulemaking and Memorandum Opinion and Order, FCC 16-18 (rel. Feb. 18, 2016) ("Navigation Device NPRM").

MVPDs are characterized by a number of attributes that are relevant for the Commission to consider as it deliberates on adopting regulations to implement Section 629 of the Communications Act, as amended.[3] First, smaller MVPDs have limited capital which they seek to spend on maintaining and upgrading their networks to serve subscribers. Second, smaller MVPDs are making little, if any, profit – and many are losing money – in providing video programming service as they face escalating fees from content providers (in excess of 10 percent annually) and are unable to pass these along to subscribers, who can increasingly obtain content from over-the-top providers or through some other means. In fact, as ACA demonstrated in a study last year, within a short time, most smaller MVPDs will lose money providing video programming service, and some have already exited the business.[4] As a result, smaller MVPDs do not have an incentive to favor traditional cable programming.[5] Third, smaller MVPDs spend significant portions of the capital available to them to respond to the demands of residential and business consumers for greater broadband performance, and this service has become their anchor offering. Fourth, smaller MVPDs do not have dedicated regulatory personnel and so have less time to follow, understand, and implement Commission decisions.

ACA opposes adoption of the Commission's proposed rules that would mandate, pursuant to Section 629 that MVPDs disaggregate their networks and services within two years to provide three non-security "information flows" and offer a "compliant" security protection system to enable the connection of navigation devices from unaffiliated third parties. The

[3] 47 U.S.C. § 549.

[4] *See* "High and Increasing Video Programming Fees Threaten Broadband Deployment," American Cable Association (Apr. 2015) *available at* www.americancable.org. For those that continue to offer a video service, they do so largely because many consumers still want to purchase a bundle of video, broadband, and voice services. But, even these MVPDs are seeking to reduce their risk by offering skinnier bundles.

[5] Thus, contrary to the Commission's claim, smaller MVPDs do not have an incentive to limit video competition or constrain innovation. *See Navigation Device NPRM*, ¶¶ 12, 25.

Commission's network disaggregation proposal will impose substantial costs on MVPDs and produce few, if any, countervailing benefits. Moreover, it is unlawful.[6]

Should the Commission nonetheless conclude that it has a sound policy basis and adequate statutory authority to adopt its proposal, ACA submits the Commission has authority to apply the rules only to larger MVPDs. Specifically, ACA proposes that the Commission refrain from applying the rules to multichannel video programming systems serving 600,000 or fewer subscribers that are not affiliated (i) with an MVPD serving more than one percent of all MVPD subscribers, or (ii) with an MVPD or any company with an attributable interest in the MVPD of 50 percent or more that has a market capitalization of greater than $100 billion ("qualifying multichannel video programming systems"). By doing so, the Commission will not impede the achievement of its objectives since most of the MVPD market will be served by larger MVPDs subject to the rules.[7] Further, smaller MVPDs have demonstrated they are deploying innovative devices, and smaller MVPDs will adopt the same technologies as technologies become generally available and costs decline. Adoption of ACA's proposal also would ensure that smaller MVPDs are not unduly burdened by the Commission's proposal.

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[6] The major MVPDs have urged the Commission to implement Section 629 by applying light-touch regulation and adopting a downloadable security protection proposal (the "Application-Based Service Proposal"). *See* "Application-Based Service with Operator Provided User-Interface System," Report of Working Group 4 to Downloadable Security Technology Advisory Committee ("DSTAC"), at 127-144, *available at* https://transition.fcc.gov/dstac/dstac-report-final-08282015.pdf ("DSTAC WG4 Report"). ("All of the major MVPDs now support an iOS and Android App to access their service on smart phones and tablets. All of the major MVPDs support their service on Microsoft Windows and Apple Mac OS X either through an application or a Web app (using a plug-in model for content protection today and transitioning to an HTML5 EME Web App in the future)…MVPD apps follow the same approach as the apps that Netflix, Amazon, Hulu, Google, YouTube and other OTT providers use for delivering service on retail devices and platforms. The apps approach abstracts the differences between varied and rapidly changing consumer electronics platforms and varied and rapidly changing multichannel services that has evolved far beyond the simple broadcast video service on which CableCARD was based.").

[7] Limiting the scope of the Commission's proposed rules to large MVPDs, as defined by ACA herein, would result in the rules applying to the twelve largest MVPDs – AT&T/DirecTV, Comcast, DISH Network, Time Warner Cable, Charter, Cox, Verizon, Frontier, Cablevision, Bright House Networks and Suddenlink – and Google Fiber.

ACA focuses initial comments on the *Navigation Device NPRM* on a discrete set of issues of most importance to smaller MVPDs. ACA anticipates entering additional commentary in the record on other issues raised in the *Navigation Device NPRM* and addressed by other commenters in its reply comments and *ex parte* submissions.[8]

I. INTRODUCTION AND OVERVIEW

Section 629 requires the Commission to ensure the commercial availability of "converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services" ("navigation devices") from vendors unaffiliated with the MVPD.[9] Among other things, this statutory provision requires that the Commission: consult with "appropriate industry standard-setting organizations" in adopting regulations,[10] "not prescribe regulations…which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems,"[11] and sunset the regulations when the market for MVPDs and the market for related navigation devices are fully competitive and when elimination would promote the public interest.[12] Congress intended that, in implementing the provision, "the Commission avoid actions which

[8] ACA, for instance, does not comment herein on protecting networks from harm and theft, consumer protection, licensing alternatives, cable subscriber privacy protections and public interest mandates such as transmission of Emergency Alert System messages, or limits on advertisements in children's television programming. *See Navigation Device NPRM*, ¶¶ 72-80.

[9] 47 U.S.C. § 549.

[10] 47 U.S.C. § 549(a). *See* H.R. Rep. No. 104-458, at 181 (1996) ("Conference Report") ("In prescribing regulations to ensure the commercial availability of such equipment to consumers, the Commission is directed to consult with private standard-setting organizations, such as IEEE, DAVID (Digital Audio Video Council), MPEG, ANSI, and other appropriate bodies.").

[11] 47 U.S.C. § 549(b).

[12] *Id*. § 549(e).

could have the effect of freezing or chilling the development of new technologies and services."[13]

The Commission first adopted rules to implement Section 629 in 1998, including the requirement to separate conditional access from other navigation functions and the so-called integration ban which prohibited affected MVPDs from placing into service, after January 1, 2005, new navigation devices (*e.g.*, set-top boxes) that perform both conditional access and other functions in a single integrated device.[14] It soon became apparent that the deadline established was infeasible and the Commission twice, at the request of the National Cable and Telecommunications Association ("NCTA"), extended that deadline by a total of thirty (30) months to afford cable operators the time needed to determine the feasibility of developing a compliant downloadable security function that would avoid the cable operator and consumer costs associated with the separation of hardware.[15] In addition to these two industry-wide extensions, the Commission granted a number of extensions to further delay implementation of the deadlines as cable operators struggled to implement the Commission's integration ban rules,[16] which (as the Commission later recognized) imposed significant new costs on

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[13] *See Conference Report* at 181.

[14] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, 13 FCC Rcd 14775 (1998) ("First Plug and Play Order") (adopting Section 76.1204 of the Commission's rules, requiring MVPDs to make available by July 1, 2000 a security element separate from the basic navigation device (i.e., the CableCARD) and prohibiting MVPDs covered by this subsection from "plac[ing] in service new navigation devices … that perform both conditional access and other functions in a single integrated device" after January 1, 2005 (i.e., the integration ban)").

[15] *See Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 7924, 7926, ¶ 4 (2003) (extending the integration ban deadline to July 1, 2006); *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order, 20 FCC Rcd 6794, 6810, ¶ 31 (extending the integration ban deadline until July 1, 2007).

[16] *See, e.g.*, *Cablevision Systems Corporation's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, CSR-7078-Z, Memorandum Opinion and Order, 22 FCC Rcd 220 (2007) (two year

subscribers.[17] This ban imposed enormous costs on smaller MVPDs, which saw the cost of compliant set-top boxes rise significantly. In fact, many smaller cable operators had to delay their transition from analog to digital services because of the increased costs of purchasing non-integrated set top boxes.[18]

Five years after the integration ban was adopted, the Commission further modified its rules to include the hardware-based CableCARD standard, which enabled one-way cable-transmission service with security technology.[19] The Commission's implementation of its CableCARD rule amendments required further rule changes. Those, too, led to petitions for clarification and waivers which postponed industry implementation of the rules.[20]

In 2010, because of concerns about the limited capabilities of CableCARD devices, the Commission began examining alternatives in the *AllVid Notice of Inquiry*; however, it reached no

waiver of integration ban); *Cablevision Systems Corporation's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, CSR-7078-Z, Memorandum Opinion and Order, 24 FCC Rcd 393 (2009) (further eighteen-month extension of the integration ban).

[17] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*; CS Docket No. 97-80, *Compatibility Between Cable Systems and Consumer Electronics Equipment*, PP Docket No. 00-67, Third Report and Order and Order on Reconsideration, 25 FCC Rcd 14657 (2010) ("Navigation Devices Third Report and Order"). *See further discussion* of the costs of implementing the integration ban in Section II.C.2, *infra*.

[18] *See discussion in* Comments of ACA, CS Docket No. 97-80, at 4-6 (filed Sept. 16, 2013) (describing impact of set-top box integration ban on smaller cable operators).

[19] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*; CS Docket No. 97-80, *Compatibility Between Cable Systems and Consumer Electronics Equipment*, PP Docket No. 00-67, Second Report and Order and Second Notice of Proposed Rulemaking, 18 FCC Rcd 20885 (2003).

[20] *See, e.g.*, *TiVo Inc.'s Request for Clarification and Waiver of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii),* MB Docket No. 12-230, Memorandum Opinion and Order, DA 12-1290 (Nov. 28, 2012) (clarifying the meaning of the phrase "open industry standard" as it appears in the Commission's regulation that requires cable set-top boxes to include a recordable, Internet Protocol ("IP")-based output and granting the cable industry an eighteen-month extension of the deadline, adopted pursuant to Section 629(c), for compliance with the rule).

conclusion about amending its rules.[21] In 2014, Congress adopted Section 106 of the STELA Reauthorization Act of 2014 which eliminated the ill-implemented ban on integrated security systems at the end of 2015 and directed the Commission to appoint an advisory committee to explore a new downloadable security system for navigation devices.[22] In mid-2015, the DSTAC – which did not include a small cable operator representative[23] - issued a report with two different proposals on non-security and security elements: one offered by the MVPD community (the "Application-Based Service Proposal") and one offered by certain consumer-electronic vendors and allied advocacy groups (the "Competitive Navigation Proposal").[24] The proposal offered by the consumer-electronic vendors underlies the Commission's tentative conclusions and proposal in the *Navigation Devices NPRM*[25] addressed in these comments.

In the *Navigation Devices NPRM*, the Commission tentatively concludes "that the market for navigation devices is not competitive," based on perceptions that "consumers have few alternatives to leasing set-top boxes from their MVPDs;" consumers pay excessive fees for devices; and, except in rare instances, consumers can access all MVPD programming only from

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[21] *Video Device Competition; Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices;* MB Docket No. 10-91, *Compatibility between Cable Systems and Consumer Electronics Equipment*, PP Docket No. 00-67, Notice of Inquiry, 25 FCC Rcd 4275 (2010) ("AllVid Notice of Inquiry").

[22] Pub. L. No. 113-200, § 106, 128 Stat. 2059, 2063-4 (2014).

[23] Despite ACA's submission of two qualified candidates, "noticeably absent from the 'wide range of stakeholders' that sat on the Committee was any employee or representative from what would be considered a small or medium-sized MVPD, or anyone whose primary objective was to represent the interests of small and medium-sized MVPDs." As a result, ACA submitted that recommendations from certain stakeholders "do not adequately acknowledge the difficulties that MVPDs in general would face in meeting these standards and protocols, but in particular do not address the additional challenges that would be faced by smaller operators." *See* Comments of American Cable Association, MB Docket No. 15-64, at 2-3 (Oct. 8, 2015) ("ACA DSTAC Comments").

[24] Final Report of the DSTAC (rel. Aug, 28, 2015), *available at* https://transition.fcc.gov/dstac/dstac-report-final-08282015.pdf ("DSTAC Report").

[25] *See Navigation Device NPRM*, ¶ 9. *See also id.*, ¶ 43, where the Commission names the Competitive Navigation Proposal as a potential fallback or safe harbor set of specifications.

the MVPD's leased set-top box or the MVPD-provided application.[26] The Commission therefore proposes to adopt the following mandates effectively requiring MVPDs to disassemble their networks, which would take effect two years after adoption:[27]

- MVPDs would be required to provide three non-security information flows – Service Discovery, Entitlements, and Content Delivery[28] – using "published, transparent formats that conform to specifications set by Open Standards Bodies in a manner that does not restrict competitive user interfaces and features."[29]

- MVPDs would be permitted to "use different standards for their equipment and applications."[30]

- MVPDs would be required to "support at least one Compliant Security System," which is licensable on reasonable and non-discriminatory terms by an organization that is unaffiliated with MVPDs.[31]

- MVPDs would be required to comply with three parity requirements: (1) "if an MVPD makes its programming available without requiring its own equipment…it must make the three Information Flows available to competitive Navigation Devices without the need for MVPD-specific equipment;" (2) "at least one Compliant Security System chosen by an MVPD must enable access to all programming, with all the same Entitlement Data that it carries on its equipment, and the Entitlement Data must not discriminate on the basis of the affiliation of the Navigation Device;" and (3) "on any device on which an MVPD makes available an application to access its programming, it must support at least one

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[26] *See id.*, ¶ 13. *See also id.* at 57, Statement of Chairman Tom Wheeler ("But when it comes to the set-top boxes mandated by pay-TV providers, consumers essentially have no choices, and they are literally paying the price for this lack of alternatives."); *id.* at 59, Statement of Commissioner Mignon L. Clyburn ("While the cost of other technologies have fallen as competition has increased, the cost of the set top box has risen by more than three times the rate of inflation for American pay-TV subscribers over the same period."); *id.* at 60, Statement of Commissioner Jessica Rosenworcel ("Costs are high, innovation is slow, and competition is limited.").

[27] *See Navigation Device NPRM*, ¶ 34.

[28] *See id.*, Appendix A, Proposed Rules, § 76.1200(f), (g), and (h).

[29] *See id.*, ¶ 2 and Appendix A, Proposed Rules, § 76.1211(a). *See also id.* Appendix A, Proposed Rules, § 76.1200(i), "Open Standards Body. A standards body (1) whose membership is open to consumer electronics, multichannel video programming distributors, content companies, application developers, and consumer interest organizations, (2) that has a fair balance of interested members, (3) that has a published set of procedures to assure due process, (4) that has a published appeals process, and (5) that strives to set consensus standards." The proposed rules do not provide for Commission review of the standards set by an Open Standards Body.

[30] *See id.*, ¶ 2.

[31] *See id.*, ¶ 2 and Appendix A, Proposed Rules, § 76.1211(c).

Compliant Security System that offers access to the same Navigable Services with the same rights to use those Navigable Services as the MVPD affords to its own application."[32]

- MVPDs would be required "to provide the information flows only to unaffiliated navigation devices that honor copying and recording limits via licenses with content protection system vendors" and to "enable the three information flows only for devices that certify compliance" with public interest requirements involving emergency alerts, consumer privacy, and children's programming advertising limits.[33]

The Commission also proposes to exempt cable operators that provide only analog services from those mandates and seeks comment on whether to exempt MVPDs serving 1 million or fewer subscribers.[34]

The Commission contends that its proposal will empower consumers and promote innovation.[35] ACA disagrees. As George Santayana wrote a century ago, "Those who cannot remember the past are condemned to repeat it."[36] The Commission, however, does not need to delve far into its memory to know its proposal repeats many of the flaws of its integration ban decisions, which imposed a rigid and ill-fitting technical mandate resulting in high costs to consumers and MVPDs while producing virtually no benefit.[37] The proposal in the *Navigation Device NPRM* is, in effect, yet another business plan drafted by well-meaning government staff that goes awry by seeking to micro-manage a wide diversity of firms in a dynamic market.[38] As

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[32] *See id.*, ¶ 63 and Appendix A, Proposed Rules, § 76.1211(b), (c), and (d).

[33] *See id.*, ¶ 2.

[34] *See id.*, ¶ 2.

[35] *See id.*, ¶ 1.

[36] See George Santayana, *The Life of Reason, Reason in Common Sense* (Vol. 1) (1905-1906).

[37] *See* n. 18 *supra*, citing ACA Comments describing the significant burdens on smaller MVPD providers and their subscribers and minimal benefits stemming from the integration ban.

[38] *See Navigation Device NPRM*, ¶¶ 41-44. In these paragraphs, the Commission states that, while it "has been wary of stifling 'growth, innovation, and technical developments' through regulations to implement Section 629," its proposed approach imposes "some standardization," although it "does not mandate specific standards." Under the Commission's proposal, the "development of standards" (or

such, the proposal cannot fit the multifarious technologies, operations, and other circumstances of each particular MVPD;[39] and it cannot be adjusted in a commercially reasonable time as consumer demands change, technologies develop, and new providers enter.[40] Moreover, the Commission's proposal is based on untested technologies and yet to be developed standards.[41]

"specifications") is then delegated to Open Standards Bodies, and it requires MVPDs to "conform" to those standards.

[39] *See First Plug and Play Order*, ¶ 12 (the Commission acknowledged that "cable networks do not reflect universal attributes, and have substantially different designs."). This is equally true today as ACA sets forth at length later in these comments.

[40] The Commission's proposal also seeks to artificially separate integrated offerings – video programming and navigation devices – into supposedly distinct markets. As a result, the Commission's proposal will harm competition and the provision of choice to consumers. For instance, RCN has spent six years working with TiVo to incorporate devices in its system not only to give its customers a superior experience but to differentiate itself from its MVPD competitors, of which there are at least four. While the Commission's proposal would enable RCN to continue working with TiVo, this advantage – and market differentiation – would be muted because RCN would have to disaggregate its network enabling any navigation device – including those connected to its competitors' networks – to connect. *See* Declaration of Jason Nealis, Vice President, Engineering and Operations, RCN, ¶ 4 (Apr. 21, 2016) ("Declaration of Jason Nealis") ("Because RCN/Grande face robust competition, we have sought to be industry leaders in the provision of digital video service. For RCN/Grande, this means controlling the entire user experience, from the provision of cable and other video programming to the devices over which the programming is offered to the interfaces by which subscribers access the service. In other words, so that we can compete, RCN/Grande believe it is essential that we consider content, devices, and interfaces as an integrated whole, which allows us to differentiate ourselves to consumers in highly competitive markets.").

As one example of how rapidly the market is moving to produce solutions, Samsung just announced that it has built a remote that controls almost all devices that plug into television sets. *See* "Review: Samsung Fixes the TV Remote," *The Wall Street Journal* (Apr. 20, 2016) *available at* http://www.wsj.com/articles/review-samsung-fixes-the-tv-remote-1461176690.

[41] *See Navigation Device NPRM*, ¶ 4. The Commission asserts that "as MVPDs move to Internet Protocol ("IP") to deliver their services and to move content throughout the home," the difficulties of the "AllVid" approach, which "would have required all operators to put a new device in the home between the network and the retail or leased set-top box," vanish. As discussed herein, ACA admits that MVPDs are on a path to convert their networks to IP, but the vast majority of ACA members will not begin that conversion for many years, and even then, it will not be a flash-cut process. *See, e.g.*, Declaration of Vin Zachariah, Senior Vice President – Residential Services, Vyve Broadband, LLC, ¶ 3 (Apr. 19, 2016) ("Declaration of Vin Zachariah"). In addition, many ACA members have just upgraded to all-digital networks, and it would not be financially sound to write-off that investment prematurely. Consequently, assuming the Commission adopts its proposal and it goes into effect in two years, most ACA members will need to deploy a new device in the home, which will require further development and testing to ensure compatibility with existing network equipment and set-top boxes, to convert QAM signals to IP, since a cloud-based, simulcast approach will be prohibitively expensive. *See* Declaration of Vin Zachariah, ¶ 6.

In essence, it is an experiment which is bound to fail but only after first imposing substantial costs on MVPDs, particularly smaller providers, putting the brakes on the innovation that is rapidly occurring in the market and damaging competition provided by smaller MVPDs.

There is more than sufficient evidence that MVPDs are responding to consumer demands by providing them with access to all sources of video programming anytime and anywhere over a vast array of navigation devices. And MVPDs are only picking up the pace to supply consumers with these innovative options. If the Commission cannot do better than the marketplace changes that are occurring, that is a good and sufficient reason for it not to act.[42] Section 629 does not require anything more. At the end of the day, the market need work only as well as government regulation for market forces to be preferable.[43] Particularly, given the flawed proposal in the *Navigation Device NPRM*, that is clearly the case here.

In these comments, ACA first rebuts the Commission's tentative conclusion, which underpins its proposed rules, that the navigation device market is not competitive, resulting in consumers having a lack of choice to access video programming and in consumers being forced to pay excessive fees to lease MVPD-provided set-top boxes.[44] ACA's analysis

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[42] As former Commission Chairman William Kennard observed, in discussing calls for increased regulation of cable providers in 1999, "we should resist the urge to regulate" where "it is likely that the market will sort this out. You need regulation when market-based incentives are not aligned with the needs of consumers." W. E. Kennard, FCC Chairman, Remarks Presented at the 19th Annual Conference of the National Association of Telecommunications Officers and Advisors, at 6 (Sep. 17, 1999). He explained further, "when I look at the cost of regulation versus the benefits, when I look at the prospect that we can have a robust, competitive broadband marketplace, I conclude that we have to resist the urge to regulate and let it play out for just a while longer." *Id.* at 7. The former Chairman wisely urged monitoring the marketplace which was functioning albeit perhaps not perfectly. The Commission would be wise to follow suit here, especially with regard to smaller MVPDs which are already responding to the marketplace in multiple ways to increase choice in how programming is accessed for customers, as explained herein.

[43] *See* Alfred E. Kahn, *The Economics of Regulations: Principles and Institutions*, 327-329 (the MIT Press 1988) (regulation, with its "inescapable imperfections," only becomes a clearly acceptable alternative when the functioning of the market is "intolerably imperfect"); Frank Easterbrook, *The Limits of Antitrust,* 63 Tex. L. Rev. 1, 24 (1984) ("The common belief that if markets are imperfect then something else must be better is a logical fallacy.").

[44] *See Navigation Device NPRM*, ¶ 13.

examines each assumption used by the Commission to reach this conclusion, and it provides evidence demonstrating that:

- Smaller MVPDs, driven by video programming competition and close relationships with their subscribers, are providing choices and innovations for navigation devices for their subscribers.
- Smaller MVPDs are not charging excessive fees to their subscribers to lease navigation devices, and in many cases, they are losing money in providing devices.
- The market for the delivery of video programming has evolved greatly over the past decade and become more robust, enabling consumers ready access to content offered by MVPDs, by over-the-top distributors, and by mobile providers, and this dynamism will continue.
- Smaller MVPDs lack incentives to protect their traditional video programming service and are facilitating access by their subscribers to over-the-top content.

From these market realities, the Commission can only conclude that the market for navigation devices is working – providing consumers with greater and increasing choices of devices at reasonable prices. Accordingly, the Commission has no foundation on which to base its proposal.

Even assuming *arguendo* there were a basis for the new rules, and the Commission had statutory authority to adopt the proposals in the *Navigation Device NPRM,* the proposed rules would impose substantial and unreasonable costs on smaller MVPDs, including the costs of (a) complying with the requirements to provide the three information flows and a compliant security system, (b) reviewing, amending, and ensuring compliance with content agreements, (c) ensuring that services accessed through third party devices continue to meet Commission public interest obligations, and (d) maintaining network security. Those costs would severely reduce, if not eliminate, cash flow for smaller MVPDs, leading to cutbacks in developing new video programming services and upgrading broadband plant. These costs also are unwarranted because the benefits for consumers from the Commission's proposal will be

illusory, and it is more likely consumers will be confused and frustrated by, purchased devices that do not perform as the Commission theorizes.

Furthermore, the Commission's past timetables for implementing Section 629 have proved unrealistic (as discussed above), requiring the Commission to extend deadlines multiple times. There is no reason to expect a different outcome were the Commission to adopt its current proposal. Even if the proposal could be effectuated within the timetable laid out in the *Navigation Device NPRM*, by the time devices are available for purchase that take advantage of the network changes imposed on affected MVPDs, the fast-evolving marketplace for content delivery is likely to look vastly different than it does today. It is quite likely that the third party navigation devices envisioned by the Commission's proposal will prove either unneeded or undesired given the then current market realities.

The Commission's proposal is not just bad policy (running counter to the public interest), it is unlawful. Section 629 requires the Commission to address the availability of retail devices that can receive multichannel video and other services "offered" and "provided" by MVPDs. It does not authorize the Commission to mandate that MVPDs disaggregate their information flows to enable services provided by third parties. Nor does Section 629 authorize regulations concerning software. The Commission may regulate physical devices only. The proposal also is legally infirm as a constitutional and statutory matter, because the Commission improperly delegates its decision making authority to Open Standards Bodies. The Commission may use standards bodies to assist in developing specifications, but it may not delegate authority to establish legally binding standards to a private body without running run afoul of non-delegation principles and the Administrative Procedures Act's requirement that rules be adopted only after adequate notice and opportunity for comment, including those incorporating standards developed by an Open Standards Body.

Instead of going down an unknown, risky, and enormously costly path with speculative benefits, the Commission should decline to adopt the current proposal.

If the Commission, however, decides to maintain its course, and is correct in its belief that it has the statutory authority to do so, ACA submits that the Commission will achieve the goals set forth in the Navigation Device NPRM by applying them to only larger MVPDs because:

- Over 93 percent of the pay-TV subscribers are served by these larger MVPDs, far higher than the amount needed for a technology to become self-sustaining and create further growth, and these larger providers have traditionally been the first providers to deploy new equipment;
- Smaller MVPDs, many of whom are already integrating third party devices into their systems, will often adopt the same technologies after larger MVPDs prove them out and the technologies become generally available at lower costs.

ACA also notes not applying the rules to smaller MVPDs would serve the public interest because these MVPDs will be unduly burdened if the regulations are applied to them, increasing the likelihood they will exit the video business, harming their subscribers.

ACA specifically proposes that the Commission refrain from imposing its proposed regulations on operators of small multichannel video programming systems, and proposes that for this purpose, "small multichannel video programming systems" be defined as those serving 600,000 or fewer subscribers and not affiliated with an MVPD either serving more than one percent of all MVPD subscribers or with an attributable interest in an MVPD of 50 percent or more that has a market capitalization of greater than $100 billion. ACA bases its request on a cost analysis that validates that systems with 600,000 or fewer subscribers not affiliated with a large MVPD or entity, would be financially burdened by the proposed regulations. Further, ACA's approach is modeled on that used by Congress and the Commission to afford smaller cable operators relief from undue regulatory burdens.

II. THE NAVIGATION DEVICE MARKET IS WORKING, ESPECIALLY IN AREAS SERVED BY SMALL MVPDS, CONTRARY TO THE COMMISSION'S ASSUMPTIONS AND TENTATIVE CONCLUSION

The Commission's analysis in the *Navigation Devices NPRM* goes "off the rails" from the outset. The Commission contends that the market for navigation devices is not competitive because consumers lack the ability to select among different navigation devices from vendors unaffiliated with MVPDs or vendors whose equipment is not used by MVPDs, and that consumers pay too much to lease navigation devices from MVPDs.[45] Yet, as demonstrated below, subscribers of smaller MVPDs increasingly have choices of innovative navigation devices from vendors unaffiliated with MVPDs, and they are not being overcharged for leasing navigation devices from MVPDs. Moreover, the Commission barely acknowledges the crucial fact that the video programming and related hardware and software markets are highly dynamic and rapidly evolving away from traditional navigation devices, continually increasing consumer choices for video programming. As one ACA member puts it in an attached declaration: "Set top boxes are 'dinosaurs.' They are coming to the ends of their lives, and by the time the FCC's proposal takes hold, their time will be gone."[46] This view was just shared with the Commission by analysts of the investment firm Raymond James:

> STBs are the consumer long distance service of media consumption. Just as consumer long distance services were, over a period of a decade or so, largely made irrelevant due to changes in regulation, technology, and industry structure, STBs are similarly a product that for technology and industry structure reasons are already in decline. Effectively all players in the media distribution ecosystem agree that ultimately media will be served up over Internet links with some sort of CPE in the home likely serving the

[45] *See Navigation Devices NPRM*, ¶¶ 13-16 ("we tentatively conclude that the market for navigation devices is not competitive.").

[46] *See* Declaration of Jody Heustess, Vice President, Sales and Marketing, ATMC, ¶ 12 (Apr. 19, 2016) ("Declaration of Jody Heustess").

functions that today are provided by STBs, cable/DSL modems and potentially Wi-Fi routers.[47]

In sum, the Commission errs in failing to recognize and account for all of these market facts, and thus its proposal rests on a foundation of sand.[48] Below we explore this in detail and correct the record.

A. Subscribers of smaller MVPDs today enjoy significant and innovative choice to access video services over a wide array of devices.

MVPDs of all sizes have been investing in an abundance of initiatives to better meet their subscribers' needs and expand options for accessing video services. Larger MVPDs have built internal software and coding capabilities, leveraging that expertise to build innovative set-top box platforms that provide consumers with leading-edge features such as cloud DVRs, multiscreen services, and connected home capabilities.[49] Larger MVPDs also are launching Internet TV services designed to retain prospective "cord-cutters" and "cord-shavers," either on

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[47] *See* Letter from Frank Louthan, Simon Leopold, Tavis McCourt, Analysts, Raymond James & Associates, and attached Industry Brief, "TMT: FCC Set Top Box Proposal Commentary; Not the BYOB Party the Commission Envisions," MB Docket No. 16-42, CS Docket No. 97-80, at 4 (Apr. 11, 2016).

[48] In contrast to the Commission's proposal, the Application-Based Service Proposal described in the *DSTAC Report* would allow smaller MVPDs to continue to integrate innovative new devices without imposing burdensome and costly technical requirements on smaller MVPDs' networks and content or interfering with their legal and regulatory obligations.

[49] Charter announced Worldbox, its cloud-based platform in 2015. Unlike traditional set-top boxes, the Worldbox delivers a cloud-based user interface (called the Spectrum Guide) and "skinny clients," allowing the service to be delivered through lower cost set-top boxes and non-set-top box devices such as TVs and tablets. *See* "Charter now rolling out Worldbox, MSO reportedly in talks with TiVo," FierceCable (Aug. 17, 2015) *available at* http://www.fiercecable.com/story/charter-now-rolling-out-worldbox-mso-reportedly-talks-tivo/2015-08-17.

Comcast's X1 Platform is a cloud-enabled platform that integrates live and on-demand TV, web content, home control, and a growing number of apps in one user interface. The platform also provides consumers with personalized recommendations and the ability to fling web pages to TV from mobile devices. *See* "Introducing X2: The Next Generation of Comcast's X1 Entertainment Operating System," Comcast (June 11, 2013) *available at* http://corporate.comcast.com/news-information/news-feed/introducing-x2.

their managed networks[50] or by offering services as virtual service providers ("VSPs")[51], with the intention of transitioning their services away from the leased set-top box model toward an internet-powered apps and devices model.[52]

Smaller MVPDs too are rolling out innovative offers. Smaller MVPDs have historically relied on larger providers to develop new video offerings, adopting successful innovations later as they become available for the mass market.[53] However, the shift by larger MVPDs towards

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[50] *See* "Time Warner Cable tests replacing your cable box with a Roku," The Verge (Nov. 9, 2015) http://www.theverge.com/2015/11/9/9700298/time-warner-cable-roku-cable-box-twc-tv,; "Comcast is launching a new $15 internet TV service called Stream," The Verge (July 12, 2015) *available at* http://www.theverge.com/2015/7/12/8942313/comcast-stream-streaming-tv-xfinity-subscribers. Comcast's Stream TV service and TWC TV both deliver video content to subscribers over their home Wi-Fi networks. TWC TV is currently offered as a trial service to New York and New Jersey customers through Roku devices.

[51] Dish's Sling TV is a VSP that delivers a pay-TV video service to subscribers' devices over the unmanaged Internet for $20 a month. It was launched February 2015 and provides access to live TV including ESPN, ESPN2, TNT, TBS, Food Network, HGTV, Cartoon Network, and Disney Channel as well as video on demand ("VOD") programming. *See* "Sling TV to Launch Live, Over-the-Top Service for $20 Per Month; Watch on TVs, Tablets, Computers, Smartphones, Game Consoles," DISH (Jan. 5, 2015) *available at* http://about.dish.com/press-release/products-and-services/sling-tv-launch-live-over-top-service-20-month-watch-tvs-tablets.

AT&T has also announced plans to launch three virtual IP-only tiers of its DirecTV service in Q4 2016, allowing subscribers to view content from the three "affordable" programming packages on tablets, smartphones and over-the-top devices without any contracts, satellite dishes, or set-tops. "AT&T/DirecTV becomes last top pay-TV operator to launch IP service," FierceCable (Mar. 2, 2016) *available at* http://www.fiercecable.com/story/attdirectv-becomes-last-top-pay-tv-operator-launch-ip-service/2016-03-02.

[52] *See* "Time Warner Cable tests replacing your cable box with a Roku," The Verge (Nov. 9, 2015) *available at* http://www.theverge.com/2015/11/9/9700298/time-warner-cable-roku-cable-box-twc-tv. According to TWC CEO Rob Marcus, in TWC's ideal world, when a subscriber is at home and connected to Wi-Fi, every screen becomes a television.

See "From Sling TV to DirecTV Now: 10 services leading pay-TV's IP-delivery revolution," FierceCable (Mar. 8, 2016) *available* at http://www.fiercecable.com/special-reports/sling-tv-directv-now-10-services-leading-pay-tvs-ip-delivery-revolution (noting that "[w]hile the FCC fixates itself on "unlocking the leased pay-TV set-top, operators are experimenting with services that require no set-top at all.").

Some of ACA's largest and smallest members have also stated that "In 3 to 4 years, we would like to be out of the set-top box business."

[53] Set-top box manufacturers and solution vendors have traditionally focused their innovative efforts on the requirements of larger MVPDs. Smaller MVPDs also have been at a disadvantage because video

developing solutions internally has limited the extent to which smaller MVPDs have been able to leverage the developments of their larger counterparts. As a result, it has become essential that smaller MVPDs drive their approaches to innovation. As Jason Nealis of RCN states in an attached declaration, "Just one way RCN/Grande have innovated is our six year relationship with TiVo. It took years and cost hundreds of thousands of dollars for RCN/Grande to integrate TiVo's platform with our networks, but it was well worth it because of TiVo's market-leading guide and search capabilities. Today, RCN/Grande lease approximately 750,000 set top boxes, all of which are digital and approximately 50% of which use the TiVo platform."[54]

In addition to working on their own, smaller MVPDs have been able to achieve some economies of scale by leveraging their relationship with their buying group, the National Cable Telecommunications Cooperative ("NCTC"), allowing them to deploy advanced navigation devices and, given the lower development cost, create video applications for their subscribers. As a result, subscribers of MVPD services can use a wide variety of applications and devices to access pay-TV and other video content.[55]

1. Subscribers benefit as smaller MVPDs work with third party vendors to deploy innovative devices and provide additional ways for them to access MVPD and over-the-top services.

Smaller MVPDs have responded to competition in video distribution platforms by embracing a variety of alternative paths, including deploying innovative set-top boxes, offering new approaches to access content, and making new content available. They continuously test,

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programmers typically have sufficient market power to place strict limitations on smaller providers' redistribution rights, limiting the viability of solutions such as TV Everywhere ("TVE") and skinny bundles.

[54] *See* Declaration of Jason Nealis, ¶ 5.

[55] *See DSTAC WG4 Report* at 127 ("MVPD apps are by far the most widespread method for delivering service to retail devices and platforms today…there are over 450 million retail video devices in the US that can be served by an MVPD app – about twice the number of set-top boxes in use by MVPDs.").

monitor, and upgrade their services and networks and, when needed to respond to customer demand, invest to make systemic changes in their networks.[56] These initiatives have resulted in increased consumer choice of video access devices within the footprints of smaller MVPDs.

To offer their subscribers a more diverse range of options, many smaller MVPDs have deployed innovative new set-top boxes that provide customers with access to over-the-top services alongside their pay-TV offerings. These new set-top boxes offer subscribers a consistent TV experience combining a feature-rich user interface with a market leading content experience, while supporting whole-home and multi-screen experiences. Smaller MVPDs have made this possible by developing strategic partnerships with companies such as TiVo and Arris, often in tandem with NCTC.[57] These partnerships allow smaller MVPDs to more rapidly deliver

[56] Because their networks are so complex and the capital required to upgrade networks is so great, MVPDs rely upon industry standards groups, in which content producers and equipment vendors also participate, to develop adoption guidelines. These industry standards groups – such as DLNA, Cable Labs, and MovieLabs – continuously monitor the trajectory of technology and the market and regularly release new and modified specifications and standards in response. As a result, what works in today's environment may not work tomorrow, as unforeseen innovation changes the requirements of MVPDs and consumer access of video programming is less and less focused on MVPD-provided set-top boxes. Standards bodies continue to develop ways to make MVPD service available on third party boxes, through standards like DNLA, RVU, and VidiPath. Within this ever changing milieu, MVPDs of all sizes have been taking steps to ensure that consumers are obtaining greater access to video content over greater array of devices, and this process will continue.

[57] Smaller MVPDs that have partnered with TiVo or have adopted Arris' Moxi platform include Armstrong Cable, Atlantic Broadband, Midcontinent Communications, Cable One, RCN, Grande Communications, WOW!, Buckeye CableSystem, and Shentel. *See* "TiVo to provide Armstrong's next-gen video platform," FierceCable (Sept. 10, 2014) *available at* http://www.fiercecable.com/story/tivo-provide-armstrongs-next-gen-video-platform/2014-09-10; "TiVo gains 295,000 cable subs in Q3 2013," FierceCable (Nov. 27, 2013) *available at* http://www.fiercecable.com/story/tivo-gains-295000-cable-subs-q3-2013/2013-11-27; "Midcontinent deploys TiVo whole home experience in South Dakota," FierceCable (Apr. 8, 2013) *available at* http://www.fiercecable.com/story/midcontinent-deploys-tivo-whole-home-experience-south-dakota/2013-04-08; "TiVo adds Buckeye to its portfolio of small and mid-sized MSO partners," FierceCable (Feb. 11, 2016) *available at* http://www.fiercecable.com/story/tivo-adds-buckeye-its-portfolio-small-and-mid-sized-mso-partners/2016-02-11; "Cable One to deploy TiVo DVR software," FierceCable (Nov. 27, 2012) *available at* http://www.fiercecable.com/story/cable-one-deploy-tivo-dvr-software/2012-11-27; "WOW! Launches Whole Home Solution," FierceCable (Feb, 1, 2012), *available at* http://www.fiercecable.com/press-releases/wow-launches-arris-whole-home-solution.

new technologies and satisfy subscribers' demands for inclusion of over-the-top content,[58] and to reduce rates of cord-cutting typically caused by over-the-top and MVPD competition.[59] For example, in July 2015, WOW! announced that it had entered into a joint development deal with TiVo and Evolution Digital to offer a low-cost hybrid IP/QAM HD box that provides access to traditional linear channels, video-on-demand, and over-the-top and TVE content all in one box. Buckeye CableSystems followed with a similar announcement in February 2016.[60]

Smaller MVPDs also are improving how pay-TV content is accessed by subscribers, both in and away from the home. One way this has been achieved is through the implementation of home gateway solutions. For example, MCTV, a smaller MVPD based in Ohio, offers subscribers its MCTV Fusion home gateway device, which provides consumers a seamless, integrated experience to view MVPD services across various navigation devices.[61]

In addition to having the choice of more advanced and flexible set-top boxes, subscribers of smaller MVPDs have benefitted as the providers make content available more

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[58] For example, Jeff Abbas, president and general manager of Buckeye, recently explained that "TiVo allows Buckeye to rapidly deliver new technologies and immediately satisfy our subscribers' increasing demand for broadband video." *See* "TiVo adds Buckeye to its portfolio of small and mid-sized MSO partners," FierceCable (Feb. 11, 2016) *available at* http://www.fiercecable.com/story/tivo-adds-buckeye-its-portfolio-small-and-mid-sized-mso-partners/2016-02-11. TiVo has created a niche helping MSOs deploy advanced multi-screen and UI video technology that they don't have the resources to develop in-house.

[59] In a report on Q4 2013 results, GCI revealed that while overall video had a slight decline, there was an acceleration of demand for TiVo in its footprint, which helped reduce churn. *See* "GCI Reports Fourth Quarter 2013 Financial Results," *available at* http://ir.gci.com/phoenix.zhtml?c=95412&p=irol-newsArticle&ID=1906539.

[60] *See* "TiVo and Buckeye CableSystem Announce Strategic Partnership," TiVo, Press Release (Feb. 11, 2016), *available at* http://pr.tivo.com/press-releases/tivo-and-buckeye-cablesystem-announce-strategic-partnership-nasdaq-tivo-1243410.

[61] MCTV Fusion syncs the playback of recorded content across multiple set-top boxes and TVs, provides subscribers with on-screen caller ID, allows wireless linking of multimedia content to the TV, and supports remote control of the DVR with any device. *See* "Set-Top Boxes," MCTV (2016) *available at* http://www.mctvohio.com/set-top-boxes.

flexibly through the adoption of TVE authentication solutions to promote even more flexible viewing options.[62] These MVPDs offer subscribers a broad range of TVE services through partnerships with TiVo and agreements with multiscreen services companies such as Synacor. For example, Mediacom and Grande Communications each signed multi-year agreements with Synacor, to leverage its web portal, TVE authentication technology, and digital advertising solutions to improve the TVE service they offer to subscribers.[63] As another illustration, the NCTC is working with several MVPDs[64] to develop a common back office integration platform that will connect with multiple billing systems and TVE authentication platforms, enhancing subscriber access to content while lowering the cost of deploying a TVE offering.[65]

2. Smaller MVPDs have a demonstrated track record in facilitating access to over-the-top providers.

Beyond expanding subscriber choice of set-top boxes and content access approaches, smaller MVPDs are taking steps to expand and improve their subscribers' access to unaffiliated over-the-top content from subscription services such as Netflix and Hulu.[66] Smaller MVPDs

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[62] Smaller MVPDs offering full TVE services include TDS, WOW!, Cable One, Wave Broadband, RCN, Midcontinent Communications, Atlantic Broadband, Service Electric, Buckeye CableSystem, Consolidated Communications, SRT Communications, Hargray, Hawaiian Telecom, Broadstripe, Cincinnati Bell, Northalnd Communications, Vyve Broadband, Comporium, Grande Communications, and Mediacom.

[63] *See* "Synacor Announces TVE Tech Deal with Mediacom," FierceCable (June 15, 2015), *available at* http://www.fiercecable.com/story/synacor-announces-tve-tech-deal-mediacom/2015-06-15.

[64] MVPDs involved in this development process include Vast Broadband, Vyve Broadband, Jackson Energy Authority, Frankfort Plant Board, and Click! Cable TV.

[65] *See* "TiVo and NCTC Partner to Deliver Members a Best-in-Class Pay-TV Choice," TiVo (Sept. 8, 2015) *available at* http://investor.tivo.com/mobile.view?c=106292&v=203&d=1&id=2085930.

[66] ACA members who have agreements with Netflix include Mediacom, Atlantic Broadband, Cable One, RCN, Grande Communications, and WOW!. *See* "Mediacom Connects With Netflix," Multichannel News (May 4, 2015) *available at* http://www.multichannel.com/news/tv-apps/mediacom-connects-netflix/390359; "Atlantic Broadband is latest pay-TV operator to hook major promo around Netflix," FierceCable (Nov. 2, 2014) *available at* http://www.fiercecable.com/story/atlantic-broadband-latest-pay-tv-operator-hook-major-promo-around-netflix/2014-11-02; "Cable One Drives TiVo/Netflix Combo," Multichannel News (July 28, 2014) *available at* http://www.multichannel.com/news/technology/cable-one-drives-tivonetflix-

recognize they cannot offer highly sophisticated on-demand offerings themselves, so they view access to over-the-top services as the best way to complement their pay-TV offerings.[67] As David Isenberg of Atlantic Broadband states in an attached declaration, "ABB's goal is to enable customers to quickly and easily find whatever video programming they want, regardless of whether it is traditional pay-TV or online source, on any screen and at any time. This is why we were one of the first cable operators to work with Netflix to integrate their service into our TiVo offering."[68] In addition, several smaller MVPDs are working with Netflix[69] through its Open Connect program,[70] which decreases the time required for content to load onto end-user

combo/382793; "WOW! To Offer Netflix ON Leased Boxes," Multichannel News (Nov. 11, 2014) *available at* http://www.multichannel.com/news/tv-apps/wow-offer-netflix-leased-boxes/385466.

ACA members who have agreements with Hulu include: Mediacom, Armstrong Cable, Midcontinent Communications, Atlantic Broadband, and WOW! *See* "Hulu Announces New Agreements to Provide Hulu to Armstrong, Atlantic Broadband, Mediacom Communications, Midcontinent Communications, and WideOpenWest (WOW!)," FierceCable (May 5, 2015) *available at* http://www.fiercecable.com/press-releases/hulu-announces-new-agreements-provide-hulu-armstrong-atlantic-broadband-med.

NCTC also has also negotiated an agreement with Hulu to allow its MVPD members to provide access to the SVoD's content through a certified STB. It has also explored agreements with Pandora. *See also* "Hulu Headed to NCTC?," (July 22, 2015) *available at* http://www.cablefax.com/distribution/hulu-headed-nctc.

[67] *See*: Ovum, "Telecoms, Media, and Entertainment Outlook 2015" ("In particular, those without a strong premium VoD play are at less risk of cannibalization than the incumbent pay-TV operators, and stand to gain from the expanded content choice Netflix can bring to their platforms. It is telling that most of Netflix's service provider partners to date are not first-tier players in their respective pay-TV markets.").

[68] See Declaration of David Isenberg, President and Chief Revenue Officer, Atlantic Broadband ¶ 4 (Apr. 20, 2016 ("Declaration of David Isenberg").

[69] Smaller MVPDs make up six of the 10 operators with the fastest streaming speeds according to Netflix's February 2016 ranking, with Grande Communications, Midcontinent, and WOW! taking the top spots. *See* "Netflix ISP Speed Index," Netflix (Feb. 2016) *available at* https://ispspeedindex.netflix.com/country/us/?small=True.

[70] Participants include Cable One, Grande Communications, and WOW!. *See* "Cable ONE Drives TiVo/Netflix Combo," Multichannel News (July 28, 2014) *available at* http://www.multichannel.com/news/technology/cable-one-drives-tivonetflix-combo/382793; "Netflix to Pai: 'Open Connect Is Not a Fast Lane,'" Multichannel News (Dec. 11, 2014) *available at* http://www.multichannel.com/news/tv-apps/netflix-pai-open-connect-not-fast-lane/386236.

devices. Likewise, Mediacom initiated an interconnection deal with Netflix that allows it to build fiber directly to Netflix facilities.[71] A recent ACA member survey indicates that these developments likely signal a larger trend, as smaller MVPDs have interest in partnerships with Netflix that improve subscribers' Netflix experience.[72]

Demonstrating the dynamic ways in which over-the-top content and MVPD programming are complementing each other, other smaller MVPDs have developed app-based over-the-top solutions that provide access to at least some of their pay-TV content through a Roku device, which can also be used to easily access over-the-top services such as Netflix, Amazon, and Hulu. Canby Telcom offers an over-the-top player that includes local broadcast channels as an

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Netflix Open Connect localizes Netflix traffic through embedded Open Connect Appliances and is only available to ISPs with an expected range of at least 5 Gbps peak Netflix traffic. *See* "Netflix Open Connect," Netflix, *available at* http://openconnect.netflix.com.

[71] *See* "Mediacom makes direct fiber connection to Netflix," FierceCable (Oct. 19, 2105) *available at* http://www.fiercecable.com/story/mediacom-makes-direct-fiber-connection-netflix/2015-10-19.

[72] 69 percent of ACA members surveyed who were aware of the Netflix Open Connect program said that they would participate if they qualified for the program; however, due their small scale, 72 percent of the members have less than 5 Gbps of peak Netflix traffic and do not qualify for the Netflix Open Connect program. That said, ACA members continue to have concerns in working with Netflix. *See* Declaration of David Isenberg, ¶ 4 ("Despite our Netflix relationship, we have only been permitted to offer integrated access to their content on customers' TV screen and not on other devices."). Mr. Isenberg also notes (¶ 5), ABB has "run into barriers with other online video distributors to obtain full and unfettered access to their content. For instance, we have been unable to reach integration agreements with many major online video distributors. To make matters worse, all of the major distributors have denied access to their catalog through our app on mobile devices or through our browser-based portal which would enable integrated search, browsing and content access. In a world where the 'app is becoming the TV service,' this is a major limitation that hampers our ability to innovate and deliver improved services to our customers." Mr. Isenberg concludes (¶ 7), "ABB's concern about discriminatory access to online content is increased greatly by the Commission's proposal in the Navigation Device NPRM since it would permit these programmers to have access to the entire content catalog of ABB's linear video service and enable them to create a comprehensive, integrated multiscreen service. Whether it is Hulu, Showtime, or some other programmer, these providers would be significantly advantaged if they are allowed to combine MVPD distributed content with their own offerings while MVPDs are not. This is why it is essential that these rules, should they be adopted, run both ways. If enacted, they should apply equally to any subscription TV service – whether an online video provider or an MVPD (or provider affiliated with an MVPD)."

alternative to its pay-TV bundle.[73] Canby is working to expand the types of content it can offer over-the-top. Similarly, in 2014, Waitsfield and Champlain Valley Telecom began offering over-the-top delivery of local programming in areas where the economics were not favorable for an IPTV or pay-TV offering.[74] Other MVPDs that have launched over-the-top content through a Roku app include Polar Communications[75] and Rainbow Communications.[76]

B. Subscribers of small MVPDs are not overcharged for navigation devices.

Not only are smaller MVPDs increasing the choices subscribers have to access content, they are not overcharging subscribers for the privilege. Critics of pay-TV providers claim that the cost of cable set-top boxes has increased 185 percent since 1994,[77] and the *Navigation Device NPRM* suggests that set-top box rentals represent a large revenue opportunity for MVPDs.[78] These contentions, however, reflect an inaccurate methodology and fail to account

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[73] *See* "Canby Telecom Using Roku and Elemental to stream local TV channels," FierceCable (May 22, 2013) *available at* http://www.fiercecable.com/story/canby-telecom-using-roku-and-elemental-stream-local-tv-channels/2013-05-22. Canby Telephone's EZVideo PayTV Lite service bundles 8 local live broadcast channels into an authenticated EZVideo channel on the Roku platform, offering subscribers an over-the-top alternative to the traditional pay-TV bundle.

[74] *See* "WCVT: Vermont Customers Get Local Channels Without Loco Prices," NeoNova, *available at* http://neonova.net/blog/case-studies/wcvt-vermont-customers-get-local-channels-without-loco-prices/. Waitsfield and Champlain Valley Telecom partnered with NeoNova and Roku to develop an authenticated service that delivers 12 local TV stations to subscribers over the MVPD's private IP network. At the time of the announcement, Waitsfield and Champlain Valley Telecom only offered cable TV service to around 25% of its service area due to unfavorable economics in its remaining footprint.

[75] *See* Polar Communications, "Web Cable Guide – YourTV," (2015), *available at* http://www.polarcomm.com/engine/wp-content/uploads/2015/10/Web-Cable-Guide-YourTV.pdf (YourTV solution offers a line-up of 14 channels).

[76] *See* Rainbow Communications, "You're in the Driver's Seat with Rainbow MyTV," *available at* http://rainbowtel.net/services/rainbow-mytv (Rainbow MyTV solution offers a line-up of 10 channels).

[77] *See e.g.*, *Navigation Devices NPRM* at 57, Statement of Chairman Tom Wheeler.

[78] *See Navigation Device NPRM*, ¶ 13, *citing* Press Release, Sen. Edward Markey, "Markey, Blumenthal Decry Lack of Choice, Competition in Pay-TV Video Box Marketplace" (July 30, 2015), *available at* http://www.markey.senate.gov/news/press-releases/markey-blumenthal-decrylack-of-choice-competition-in-pay-tv-video-box-marketplace.

for the costs MVPDs incur to purchase and manage set-top boxes. The Commission has requested further information about the nature of any revenue opportunities for MVPDs from set-top box rentals.[79] As discussed below, smaller MVPDs generally do not profit from the leasing of set-top boxes to subscribers.[80] Additionally, any increase in the price of set-top boxes has been driven principally by three factors: the financial burden of regulatory mandates imposed by the Commission – which cannot justify still more costly regulations; inflation, an economic circumstance the Commission cannot regulate; and, technological innovations the Commission should not want to deter because, although they increase costs, they vastly expand the value to consumers of their set-top boxes. Thus any claim that smaller MVPDs are reaping supra-competitive profits from the provision of set-top boxes has no foundation.

1. The Commission has based its analysis of consumer costs on scant evidence and a flawed study.

The Commission bases its set-top box "price-increase" observations on flawed analysis that does not present a comprehensive view of the MVPD industry. The query of the top ten MVPDs conducted by Senators Markey and Blumenthal, which the Commission uses as the sole source for describing the current state of the set-top box market, bases its findings on incomplete information from a non-representative subset of the MVPD industry.[81] Moreover, the

[79] *See, e.g., Navigation Device NPRM*, n. 44.

[80] In the *Navigation Device NPRM* (¶¶ 84-85), the Commission inquiries about whether it should require MVPDs to charge separately for leased navigation devices and impose a prohibition on cross-subsidization. ACA intends to comment on this issue in its reply. That said, the Commission's examination of this issue again demonstrates it has incorrectly defined the relevant product markets. As discussed above, ACA members believe the video programming and device markets are integrated, enabling them to provide their subscribers with greater choices of services and devices and to differentiate themselves from their competition, including by offering low rates for devices. Accordingly, by definition, there is no cross-subsidization.

[81] *See id.*, ¶ 13, n. 44. Senators Markey and Blumenthal erroneously assume that the top ten MVPDs are representative of the entire pay-TV industry, ignoring substantive differences between large and small providers.

185 percent increase in price calculation the Commission refers to in its discussion of increasing set-top box prices is misleading.[82] Whether MVPDs' prices for set-top boxes are excessive can only be determined by examining the costs associated with making set-top boxes and the technologies and capabilities of those devices. The Commission never does this. ACA undertook a survey of its members to determine these costs, and this survey indicates that, for nearly all ACA members, profits (price minus cost) from set-top box rentals, if any, are generally nominal.[83] In fact, many smaller MVPDs operate with negative margins in providing set-top boxes.[84] Key new or increasing costs associated with set-top boxes that result in these thin or non-existent margins include not only the purchase of the device from a third party manufacturer, but a variety of ancillary costs including licensing metadata, truck rolls, call center

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[82] *See* Letter from Mark Cooper, Consumer Federation of America, and John Bergmayer, Public Knowledge, to Marlene H. Dortch, Federal Communications Commission, MB Docket No. 15-64 (Jan. 20, 2016) ("CFA/PK Letter"). ($7.43 - $4.10)/$4.10 = 81.2%, $4.10 is the 1994+CPI cost per set-top box provided in the Consumer Federation of America/Public Knowledge analysis cited by the Office of Chairman Wheeler.

This increase does not account for inflation over the intervening twenty-plus years over which the increase occurred. After accounting for inflation, an average monthly price of $7.43 per set-top box would represent a substantially lower 81 percent increase in prices during the time period in question.

See also CFA/PK Letter, n. 6, *citing* "Smartphone Cost, How Much Does a Smartphone Cost?," CostHelper Electronics, *available at* http://electronics.costhelper.com/smartphone.html.

It is also worth noting that mobile phone prices have not decreased by 90 percent, as the $100 cost of a smartphone used in the Consumer Federation of America/Public Knowledge analysis is the cost of a smartphone on a contract – the source used for the $100 number states that consumers should also expect "additional costs: a two-year contract with the device's designated service provider is required for activation of most smartphones."

The real cost of a smartphone in 2013 was closer to $398. Tristan Louis, "The Real Cost of a Smartphone," Forbes (Sept. 14, 2013), *available at* http://www.forbes.com/sites/tristanlouis/2013/09/14/the-real-cost-of-a-smartphone/2/#6ab61201120e).

[83] Smaller MVPDs provide a small proportion of the set top boxes. A survey of ACA's 843 members' 2015 set-top box revenue showed it to be comparable to the revenue of streaming media player manufacturers in 2015, lagging far behind the revenues earned by set-top box manufacturers.

[84] A survey of ACA members revealed that those whose set-top box rental revenues fail to cover their costs range from very small operators to operators with over 50,000 subscribers.

and stock room staffing, repairs, and write-offs for lost and damaged devices.[85] Most members ACA surveyed do not view the leasing of set-top boxes as a core offering and, indeed, would voluntarily rent set-top boxes should a business case exist to do so.

2. Many increases in leasing fees over the last two decades are attributable to increased costs from regulatory mandates and intervening technological advances.

Regulatory mandates imposed by the Commission such as the integration ban and "FireWire" standard have played a significant role in increasing set-top box prices over the past two decades. The integration ban, which required cable companies to include CableCARD devices in their set-top boxes by 2007 (following two significant extensions after the rule was first adopted), increased the average price of a basic digital set-top box 40 percent, from $5 to $7 per month, due to the added cost of separating the conditional access system.[86] Adjusted for inflation, this increase is the largest factor in driving set-top box prices from 1994 levels to the $7.43 price cited by the Commission.[87] By 2013, the integration ban had added over $1 billion in costs to subscribers,[88] imposing over $50 in additional costs on each leased box.[89]

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[85] For ACA members with profitable set-top box businesses, a single truck roll at $75 would consume their profit from leasing set-top boxes to a household for the year.

[86] *See IHS April 2008 Market Insight* (showing that "a basic digital STB [cost was] around $5 before the integration ban and $7 dollars after."). *See also* "The FCC's Previous Failures Regulating Video Devices Show Folly of New Rules," The Free State Foundation (Feb. 8, 2016) *available at* http://freestatefoundation.blogspot.com/2016/02/the-fccs-previous-failures-regulating.html ("Indeed, the cable industry has estimated that CableCARD-related costs to consumers have exceeded $1 billion. By another reported estimate CableCARD adds $56 to the cost of each set-top box.").

[87] *See CFA/PK Letter*. The real increase in set-top box prices from 1994 to 2015, according to the Consumer Federation of America/Public Knowledge analysis, is $7.43 - $4.10 = $3.33. The $2 increase in set-top box prices resulting from the integration ban accounts for 60.1 percent of this price increase.

[88] *See* "The Integration Ban: A Rule Past Its Prime," NCTA (Aug. 2, 2013) *available at* https://www.ncta.com/platform/industry-news/the-integration-ban-a-rule-past-its-prime/.

[89] Rep. Bob Latta, Remarks to the Free State Foundation (Oct. 24, 2013) ("The 'integration ban' has forced consumers to pay higher prices for leased boxes … the integration ban imposes over $50 in additional costs on each leased box, resulting in over $1 billion in increased costs without any additional

The Commission acknowledged the set-top box cost increase resulting from the integration ban in its *Third Report and Order and Order on Reconsideration*, noting that "the integration ban raises the cost of set-top boxes for cable operators, which discourages operators from transitioning their systems to all-digital."[90] The "FireWire" standards also contributed to substantial increases in set-top box costs, requiring operators to deploy set-top boxes that included a "FireWire" connector.[91] Over the five years from enactment to repeal, the "FireWire" standards cost cable operators around $400 million, imposing a connector cost of $20 per box.[92]

The remaining increases in set-top box fees can largely be attributed to vastly improved capabilities compared to set-top boxes in 1994. Early set-top boxes deployed by cable operators in the 1990s only provided consumers with descrambling capabilities.[93] Cable companies did not begin pilot testing innovative video services that required more technologically advanced set-top boxes until the 2000's, most of which required expensive technology.[94] The inclusion of features such as digital video recording ("DVR"), high-definition, and two-way interactive support has allowed the set-top box to integrate the capabilities of other

benefit. It also, based on EPA figures, imposes additional energy consumption costs amounting to hundreds of millions of kilo-watt hours per year.").

[90] *See Navigation Devices Third Report and Order*, ¶ 45.

[91] *See* "FireWire: A $400 Million Black Hole," Multichannel News (June 28, 2010) *available at* http://www.multichannel.com/blog/translation-please/firewire-400-million-black-hole/373353. "FireWire" connectors were also known as "IEEE 1394" connectors. The FCC mandate was enacted in July 2005 and lifted June 2010.

[92] *See id*.

[93] *See* Hal Singer, "The Sketchy Stat Behind the FCC's Unlock-the-Box Campaign," Forbes (Feb. 5, 2016), *available at* http://www.forbes.com/sites/halsinger/2016/02/05/the-sketchy-stat-behind-the-fccs-unlock-the-box-campaign/2/#2aab1e695631.

[94] *See* "History of Cable" *available at* http://www.calcable.org/learn/history-of-cable/. Innovative video services enabled by technologically advanced set-top boxes include VOD, SVoD, Interactive TV, and HD TV.

connected-TV devices such as VCRs into a single piece of equipment.[95] Most set-top boxes today also include an interface that delivers video in a recordable format over an IP-based connection.[96] While these features have increased the cost of set-top boxes, they have provided consumers with greater value far exceeding the additional costs (after accounting for inflation and costs attributable to regulatory decrees).

C. Consumers have increasing choices regarding access to programming content in a rapidly evolving and robustly competitive marketplace.

Not only do MVPDs continue to provide subscribers increasing choices in how they access MVPD programming, but MVPDs operate in a video programming delivery market characterized by intense and growing competition among MVPDs between MVPDs and others.[97] MVPDs are responding to changes in technology, consumer demand, and other market forces in a manner that the regulatory process cannot hope to emulate, let alone improve. Indeed, the Commission's proposed rules in the *Navigation Device NPRM* are premised on a set-top box-centric means of access to video programming that is already in the process of dynamic change and is arguably already starting down the path towards

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[95] *See* Hal Singer, "The Sketchy Stat Behind the FCC's Unlock-the-Box Campaign," Forbes (Feb. 5, 2016), *available at* http://www.forbes.com/sites/halsinger/2016/02/05/the-sketchy-stat-behind-the-fccs-unlock-the-box-campaign/2/#2aab1e695631.

[96] *See Navigation Devices Third Report and Order*, ¶¶ 39-44. The FCC requires that "cable operators … include an IP-based interface on all two-way high-definition set-top boxes that they acquire for distribution to customers" that delivers video in a recordable format and pass through closed captioning data in a standard format, as well as providing service discovery, video transport, and remote control command pass-through standards functionalities.

[97] It is specious to analogize the Commission's proposal to the 1968 *Carterfone* decision, where the Commission permitted consumers to connect their customer premises equipment ("CPE") to the telephone network. (*See Carterfone*, 13 FCC 2d 420 (1968), remainder of cite omitted.) With *Carterfone*, the nationwide telephone network was a monopoly with well-developed network and CPE standards implemented ubiquitously. That is not the case in the MVPD market where providers utilize a wide variety of technologies, network designs, service formats, and service models. As the Commission recognized in the initial proceeding to implement Section 629, "cable networks do not reflect universal attributes, and have substantially different designs." *See First Plug and Play Order*, ¶ 12.

obsolescence. The old set-top box model is transitioning with the deployment, for example, of gateway devices in consumers' homes reducing the need for multiple smart boxes in the customers' homes. Any rules that emerge from the starting point laid out in the *Navigation Device NPRM* are almost certain to be a poor solution by the time they are adopted and implemented (even assuming they would have been appropriate when first proposed).[98]

Consequently, ACA believes it is important to correct the record and the Commission's tentative conclusions. In describing an alleged lack of competition in the ways that subscribers access video programming, the *Navigation Device NPRM* overlooks the emergence of a market characterized by consumer choice in ways to obtain programming from multiple providers. Not only do multiple MVPDs compete in markets across the countries, alternative distribution platforms not controlled by MVPDs have emerged and continue to expand.

1. Consumers have a high and increasing level of choice in MVPDs.

MVPDs face substantial competition from other MVPDs. In virtually all markets, consumers have a choice in video service from least three providers, resulting in effective competition.[99] Moreover, competition among MVPDs has been growing as the number of

[98] It bears repeating that the cable industry spent over a billion dollars in the last decade and a half complying with the integration ban. *See* n. 91*, supra, and accompanying text.* But the regulatory framework never realized the results that the Commission sought. The way in which that regulatory effort played out, conferring minimal benefit on subscribers as a whole, should be a warning signal regarding the difficulties of assessing the potential for success of adopting regulations designed to anticipate future developments in the marketplace and the evolution of consumer demand.

[99] In its 16th Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, the FCC estimates that, as of 2013, 99percent of households had access to at least 3 MVPDs and 35 percent of households had access to at least 4 MVPDs. *See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 14-16, Sixteenth Report, FCC 15-41, Table 2 ("Access to Multiple MVPDs") (rel. Apr. 2, 2015). The FCC has adopted a presumption that there is effective competition everywhere, which was based on the fact that not only DISH and DIRECTV are nationwide services, but they also serve more than 15percent of the market in each franchise area. *See also See Amendment to the Commission's Rules Concerning Effective Competition*, MB Docket No, 15-53, Report and Order, FCC 15-62, ¶ 4 (rel. June 2, 2015)

providers increase.[100] Smaller MVPDs are not shielded from this competition given the presence of satellite providers, larger cable companies, municipal broadband networks, and local telephone providers, such as Frontier and CenturyLink, both of whom are actively expanding their video footprints.[101] This competition drives the natural evolution, increasing innovation, and greater consumer choice in set-top boxes as MVPDs seek to differentiate themselves to attract and retain customers.

2. Consumers are rapidly moving to access video content over the Internet.

The environment in which MVPDs operate is characterized by increasing consumption of over-the-top video content. Over-the-top services are not only changing how video programming is delivered and accessed but providing consumers with new, alternative video content.[102] Even as MVPDs are seeking ways to partner with over-the-top providers to complement their pay-TV services, as described above, over-the-top providers also make their service available without the need for set-top boxes. These developments represent a

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("2015 Competition Report and Order"). The Commission found effective competition in more than 99.5 percent of the communities it evaluated. *See 2015 Competition Report and Order*, ¶ 4.

[100] *See id*.

[101] Frontier acquired Verizon's wireline operations in California, Texas and Florida in 2016 and plans to focus on an expanded rollout of IPTV service to 3 million households over the next 3 to 4 years. *See* "Frontier wraps $10,5B, 3-state acquisition of Verizon wireline properties, plans to expand workforce," FierceCable (Apr.1, 2016) *available at* http://www.fiercetelecom.com/story/frontier-wraps-105b-3-state-acquisition-verizon-wireline-properties-plans-e/2016-04-01.

CenturyLink is also aggressively expanding its Prism TV video services, making Prism TV available in a number of markets including Minneapolis, Salt Lake City, Seattle, Denver, St. Paul, and Vancouver in 2015. *See* "CenturyLink adds nearly 13k Prism TV subs in Q4," FierceCable (Feb. 12, 2015) *available at* http://www.fiercecable.com/story/centurylink-adds-nearly-13k-prism-tv-subs-q4/2015-02-12.

[102] *See* Mike Farrell, "Pay TV's 'New Normal': 1 Million Cord-Cutters a Year," Multichannel News (Apr. 11, 2016), *available at* http://www.multichannel.com/blog/money/pay-tv-s-new-normal-1-million-cord-cutters-year/404038 (1.1 million pay TV customers cut the cord in 2015, a four hundred percent increase over 2014, and over-the-top providers are growing at 10 times the pace of traditional multi-channel programming operators).

substantial challenge to the pay-TV model relying on set-top boxes alone. Facilitated by significant growth in the offering and adoption of higher broadband speeds,[103] over-the-top growth in video consumption by U.S. households has exploded since 2012.[104] In 2015, over half of U.S. households regularly viewed television shows or movies using over-the-top delivery.[105] There can be no doubt that over-the-top delivery is a growing force that drives increasing consumer choices in how they access video programming.

As evidence of this, subscribership to over-the-top video services has soared, with Netflix and Amazon surpassing MVPDs as the two largest U.S. video subscription services[106] and popular over-the-top providers reporting double digit subscriber growth in 2015.[107] The success of streaming services has driven the launch of VSPs, which deliver subscription-based

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[103] *See 2015 Measuring Broadband America Fixed Broadband Report: A Report on Consumer Fixed Broadband Performance in the United States*, Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, Federal Communications Commission, Exec. Summary, ¶ 4 (rel. Dec. 30, 2015), *available at* https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-broadband-america-2015. Actual download speed, averaged across all participating ISPs, tripled from March 2011 to September 2014, increasing from around 10 Mbps in 2011 to nearly 31 Mbps in 2014.

[104] *See* "US Adults Spend 5.5 Hours with Video Content Each Day," eMarketer (Apr. 16, 2015) ("eMarketer Article") *available at* http://www.emarketer.com/Article/US-Adults-Spend-55-Hours-with-Video-Content-Each-Day/1012362. Time spent watching traditional video has declined from 4 hours 35 minutes in 2011 to 4 hours 15 minutes in 2015 while digital video has increased from 21 minutes to 1 hour 16 minutes in the same time period.

[105] *See* SNL Kagan, "Projected U.S. multichannel substitution households" (Nov. 19, 2015). Online video viewing households increased eight percent from 56.5 million in 2014 to 61.0 million in 2015.

[106] *See* SNL Kagan "OTT players take top 2 video subscription service spots in Q4'15," at 2 (Mar. 29, 2016). Netflix finished 2015 with 43.4 million subscribers. Amazon finished 2015 with 33.7 million subscribers. By comparison, AT&T/DIRECTV had 25.4 million subscribers and Comcast had 22.3 million subscribers. Other popular over-the-top aggregators include Hulu with 10.7 million subscribers and Crunchyroll with 600,000 subscribers.

[107] *See id*. at 1. Netflix's relatively more mature business increased its subscriber base by 7.7 percent in 2015. Amazon subscribers increased 47.0 percent, Hulu subscribers increased 54.4 percent, and Crunchyroll subscribers increased 39.1 percent. By comparison, the top two MVPDs – AT&T/DIRECTV and Comcast – posted net declines in subscribers.

access to conventional video services, including pay-TV, over the Internet.[108] All three major premium network services also have also gone direct-to-consumer by launching apps enabling over-the-top access to their programming.[109] In addition, CBS has launched CBS All-access offering consumers access to current programming as well as past seasons through an over-the-top application.[110]

Increased availability of over-the-top video content has fueled, and will continue to fuel the availability of new TV-connected devices that bypass MVPD systems, driving significant and continued growth in Internet-to-TV video delivery.[111] Many of these devices are pre-integrated with applications from over-the-top content providers, providing consumers with streamlined access to online video.[112] The result is a large and diverse video market that provides

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[108] *See* SNL Kagan, "U.S. OTT Entities" (Nov. 19, 2015). There are currently 4 VSPs operating in the U.S. – SlingTV owned by Dish, Sony Vue owned by Sony, YipTV (independent), and KlowdTV (independent). All 4 services launched over the course of 2015, reaching 0.4 percent of U.S. households within a few months.

[109] No. 2 premium cable network Starz announced plans to launch an $8.99 direct-to-consumer service that is usable on Apple and Google mobile and over-the-top devices on April 5, 2016. *See* "Starz finally announces direct-to-consumer," FierceCable (Apr. 5, 2016) *available at* http://www.fiercecable.com/story/starz-finally-announces-direct-consumer-service/2016-04-05. HBO and Showtime both already have direct-to-consumer offerings.

[110] *See* "CBS All Access," *available at* http://www.cbs.com/all-access/.

[111] *See* "Cisco Visual Networking Index 2014-2019," *available at* https://newsroom.cisco.com/press-release-content?articleId=1644203. Internet video to TV doubled in 2014, representing 16 percent of consumer Internet video traffic, and is expected to continue to grow at a rapid pace, increasing fourfold by 2019. Adoption of devices enabling Internet-to-TV video content delivery, encompassing a range of devices including streaming media players, streaming media sticks, game consoles, as well as Smart TVs and internet-connected Blu-ray players, continues to grow. *See* SNL Kagan, "U.S. connected video devices" (Sept. 22, 2015). Smart TV/connected Blu-ray player installed base increased 20.7 percent year-over-year to 106.3 million in 2015. Streaming sticks installed base increased 96 percent year-over-year to 14.7 million in 2015. Streaming media players installed base increased 19.9 percent year-over-year to 36.1 million in 2015.

[112] In addition to changing how consumers receive and watch video programming, online video providers are popularizing content that is not licensed from broadcasters. Many online video providers offer consumers niche content such as foreign language television and live e-sports. (Viki offers users subtitled foreign language dramas, Viewster provides users with access to a large library of animation, and Twitch offers subscriptions to e-sports livestreaming channels.) As the online video market becomes increasingly competitive, over-the-top content providers are transitioning from content aggregation to

consumers with alternatives to pure pay-TV services and significant choice in content, price, type of service, and means of delivery.[113]

3. Consumers are rapidly and increasingly moving to access video content from mobile providers.

Further demonstrating the dynamism of the video programming market – as well as the potential for increasing consumer alternatives to a television and set-top box focused model – mobile providers are offering and consumers are more frequently viewing video programming on mobile devices.[114] The mobile share of video content viewership reached 31 percent of

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content production, using original content as a point of differentiation from MVPDs and other over-the-top content providers. (This transition to content production has led to a content "arms race" between the three largest over-the-top providers (Netflix, Amazon, and Hulu), which is serving to increase competitive pressures on MVPDs. In addition to producing original content, Netflix is focusing on obtaining differentiating video content through exclusive licensing deals for traditional video programming, turning away from deals that allow networks to retain in-season "stacking rights" for distribution on pay-TV operators' Video on Demand or TVE services. Netflix released 48 originals in 2015 and is expected to continue to invest in original content, with spend on original content production forecasted to grow at 38 percent a year to $1.3 billion by 2019. Similar growth in investment in original content production is expected from Amazon and Hulu. Hulu spend on original content production is expected to increase from $44 million in 2014 to $250 million in 2019. Amazon spend on original content production is expected to increase from $92 million in 2014 to $462 million in 2019. These investments have largely been successful, with Netflix originals such as "House of Cards" becoming brand ambassadors for the over-the-top service and Amazon's "Mozart in the Jungle" winning a Golden Globe for best TV comedy in 2016. By not only changing how consumers access video content, but influencing the video content that consumers demand, over-the-top content providers are changing the video ecosystem in a way that is highly disruptive to the MVPD business model. *See* "Over the Top TV Trends," L.E.K. (June 2015) and "Ted Sarandos: Netflix Appetite for Originals Growing Stronger," Variety (May 13, 2015) *available* at http://variety.com/2015/digital/news/netflix-ted-sarandos-original-series-1201494618/; "'Mozart in the Jungle': Amazon's Low-Profile Series Shocks with High-Profile Wins at Golden Globes," Variety (Jan. 10, 2016) *available* at http://variety.com/2016/tv/news/mozart-in-the-jungle-golden-globe-wins-gael-garcia-bernal-1201676479/.

[113] *See* SNL Kagan, "U.S. OTT Entities" (Nov. 19, 2015). The U.S. over-the-top market encompasses over 118 over-the-top aggregators offering content through subscription-based, advertising-based, transactional, and blended revenue models. These over-the-top aggregators have partnered with a wide range of content providers – from mainstream U.S. broadcasters to foreign content owners to internet-based content producers – as well as a variety of TV-connected and mobile devices.

[114] *See* "Comparable Metrics Report Q3 2015," Nielsen (Jan. 6, 2016), *available at* http://www.nielsen.com/us/en/insights/reports/2016/the-comparable-metrics-report-q3-2015.html. 14.4 percent of video viewing by U.S. adults 18 and older took place on a non-TV device (i.e. TV connected device, PC, smartphone, or tablet) in Q3 2015, up from 12.9 percent in Q3 2014. *See also* "TV & Media 2015," Ericsson(2015), *available at* http://www.ericsson.com/res/docs/2015/consumerlab/ericsson-

overall online video in 2015.[115] In fact, overall growth in digital video consumption has largely been driven by consumption on mobile devices, with the typical U.S. adult in 2015 watching 39 minutes of video per day on a mobile device.[116] Most households have multiple mobile devices, and mobile device ownership is expected to continue to grow.[117] Wireless carriers have responded to the growth in mobile video viewership with new data plans designed to enable video consumption over wireless broadband.[118]

Underscoring the growing impact of mobile delivery of video, mobile carriers are now creating new targeted video offerings for their subscribers. For example, Verizon's Go90 service delivers video content exclusively over wireless broadband, including 35 exclusive original programming series.[119] As this shift towards mobile consumption of video continues,

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consumerlab-tv-media-2015.pdf. Average time spent watching TV and video on mobile devices, including tablets and laptops, has increased 3 hours a week over the past 3 years from 2012 to 2015.

[115] *See* Adobe, "Adobe Digital Index Q3 2015 Digital Video Report, 2015 Digital Index," at 3 (Dec. 4, 2015), *available at* http://www.slideshare.net/adobe/adobe-digital-index-q3-digital-video-report. Mobile share of overall online video increased 13 percent from 2014 to 2015. *See* "Mobile Video 2015: A global perspective," I.A.B. (June 2015). A 2015 survey of 200 U.S. adults found that 50 percent of respondents reported watching more video on their smartphone in 2015 than they did in 2014, with over 30 percent of respondents watching long-form videos at least once a day on their smartphones. *See id*.

[116] *See eMarketer Article*. The typical U.S. adult consumed one hour 16 minutes of digital video a day in 2015, an increase of 20.6 percent from 2014. Mobile's share of digital video consumption increased by almost 8 percent from 47.6 percent of all digital video consumption to 51.3 percent.

[117] *See* SNL Kagan, "U.S. Connected Video Devices" (Sept. 22, 2015). Each HSD household in 2015 owned an average of 3.6 mobile devices (smartphones and tablets). This number is expected to increase to almost four devices per household by 2019.

[118] *See* "T-Mobile Launches 'Binge On'," Multichannel News (Nov. 10, 2015) *available at* http://www.multichannel.com/news/content/t-mobile-launches-binge/395215. T-Mobile launched Binge On in November 2015, a video offering that encourages over-the-top content providers to partner with T-Mobile to provide optimized streams so T-Mobile's wireless customers can view their video content without consuming their data plans.

[119] *See* "Verizon Launches Free Go90 Video Service: Why It Might Not Connect," Variety (Oct. 1, 2015) *available at* http://variety.com/2015/digital/news/verizon-go90-launch-free-mobile-video-1201607727/.

mobile broadband services (and the associated devices) will become an increasingly important consumer alternative to traditional multichannel video services.

D. Smaller MVPDs are constrained in their ability to respond to competition and supplier leverage in the video programming market.

Smaller MVPDs' success in delivering innovations in set-top boxes and video delivery options is particularly noteworthy given the pronounced challenges they face in operating at a substantially smaller scale than leading MVPDs and over-the-top distributors. The resulting lack of leverage in key negotiations with content suppliers and small MVPDs' limited resources negate their ability to combat competitive threats.[120]

As video is already a low, if not non-existent, margin business for smaller MVPDs, additional challenges to their video business case threaten not only their ability to introduce new innovation, but also risk their viability in the video business altogether.[121] These developments counsel sharply against finding any public interest in increasing the cost and operational burdens on smaller MVPDs in particular.

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[120] Whereas the average ACA member has less than 8,000 subscribers, over-the-top providers such as Netflix and Hulu have 40 million and 9 million subscribers respectively, which affords them substantial economies of scale. ACA has analyzed the interconnection agreements between smaller MVPDs and over-the-top providers and determined that smaller MVPDs are not able to compete, with over-the-top providers. On the contrary, as discussed later in these comments, small MVPDs have made substantial efforts to make available to their subscribers the services of the content providers but have often been turned away or only have received limited rights. Netflix has confirmed that smaller providers have no market power over them, stating, "a small terminating access network cannot charge an OVD for direct interconnection because failure to reach an agreement with a network that accounts for a very small portion of an OVD's customers would not be financially detrimental [to Netflix]." *See* Comments of Netflix, Inc., MB Docket No. 14-90, at 22 (Sept. 16, 2014).

[121] A 2014 Wall Street Journal article reported that, since 2008, the number of small MVPDs that "have shut off cable-TV services or have gone out of business," due, in large part, to customer migration to online video has accelerated. *See* Shalini Ramachandran, "More Cable Companies Take TV Off Menu," The Wall Street Journal (Oct. 3, 2014), *available at* http://www.wsj.com/articles/more-cable-companies-take-tv-off-menu-1412120310.

1. Smaller MVPDs' ability to further the development of third party navigation devices is constrained by complex agreements with their video programming providers imposing strict and often onerous conditions.

Smaller MVPDs are burdened by the terms of the distribution agreements imposed by powerful video programming providers. Smaller MVPDs obtain most of their national cable programming through their buying group, NCTC, which negotiates standardized master agreements into which operators may opt. By allowing smaller MVPDs to cooperatively achieve greater scale in their negotiations with content providers, the NCTC achieves master agreements with lower rates than smaller operators would receive through direct deals. To opt into an NCTC master agreement, however, smaller MVPDs must accept the terms and conditions of the agreement in their entirety.

Carriage and penetration requirements in these agreements regularly force smaller MVPDs to carry bloated bundles of content at specific service tiers, limiting the viability of solutions such as TVE and "skinny" bundles.[122] More important, in response to the *Navigation Device NPRM's* effort to increase the means of access to MVPD programming content by facilitating third party set-top boxes, these agreements memorialize a frequent unwillingness on the part of content providers to provide smaller MVPDs with the rights necessary to make video content available over-the-top or through apps on third party devices. While NCTC is "accelerating … efforts around creating OTT deals for … members" through partnerships with both existing programmers and alternative content sources like Netflix,[123] progress has been impeded by smaller operators' lack of negotiating power with large programmers. ACA

[122] *See* Comments of the American Cable Association, MB Docket No. 16-41, at 14-16 (Mar. 30, 2016).

[123] *See* "NCTC in the News: OTT Rises to the Top," *available at* https://www.nctconline.org/index.php/programming/satellite-chart/item/554-nctc-in-the-news-ott-rises-to-the-top.

members have reported that it is difficult for small operators to launch over-the-top services since NCTC will not have the leverage to convince programmers to give them the rights to provide content over-the-top or through an app until over-the-top or app-based delivery becomes the status quo of the video industry.[124] Smaller MVPDs' ability to negotiate retransmission rights needed for innovative offerings is often dependent upon larger operators paving the way. Despite these barriers, efforts by the NCTC and individual operators demonstrate a clear desire to move towards a more app-based delivery of video services, even as smaller MVPDs continue to increase subscriber choice both in access equipment and delivery options.

2. In many cases, over-the-top providers stand in the way of integrated offerings of MVPD and over-the-top content.

Smaller MVPDs cannot facilitate access to over-the-top content on their own; they need the cooperation of over-the-top providers. While a number of MVPDs have had success in partnering with over-the-top providers, several ACA members that have attempted to integrate over-the-top offerings as part of their service have found that at least certain over-the-top providers are often unwilling to cooperate, and at times, unwilling even to respond to correspondence.[125] Even when smaller MVPDs have been able to engage with certain over-the-top providers, they are often subject to slow implementation timelines and unfavorable terms and conditions.[126] Those partnerships that have been achieved so far are largely due to efforts

[124] *See* Declaration of David Isenberg for a more complete explanation of the types of barriers smaller MVPDs face.

[125] *See id*.

[126] *See id*.

by NCTC to negotiate on behalf of multiple smaller MVPDs, but other MVPDs continue to face challenges in partnering with over-the-top providers.

III. THE COMMISSION'S PROPOSAL WILL IMPOSE SUBSTANTIAL COSTS ON SMALL MVPDS AND ANY BENEFITS FOR CONSUMERS ARE AT BEST ILLUSORY

In response to the Commission's request for comments "on how any rules that we adopt could affect small MVPDs,"[127] ACA examines the costs and benefits associated with the Commission's proposal based on an analysis of the mandates it imposes on smaller MVPDs. ACA intended to quantify the full cost impact for smaller MVPDs; however, despite extensive examination of the requirements and their impact, including by conducting a lengthy interview process with its members, ACA was unable to develop a precise picture of the total costs smaller MVPDs would incur to disaggregate their networks to provide the required information flows and a compliant security system. First, it became clear that the Commission's proposal depends primarily on undefined requirements and technologies that are incomplete or have a track record of failure. Thus, implementation of the proposal presents a highly uncertain development path that may drive unknown and potentially substantial costs for MVPDs. Second, for those several standards and technologies that appear known, ACA was unable to quantify the costs associated with the requirements - they depend on MVPDs making changes to their systems that they are restricted from making due to contractual or technical limitations. Nonetheless, ACA was able to produce an estimate of costs for a small set of these requirements sufficient to demonstrate that these costs alone would impose substantial financial burdens on smaller MVPDs. To finance these costs, smaller MVPDs would face the choice of either needing to raise substantial funds for a project that would produce no return or pass these costs on to consumers. Either outcome would threaten the viability of their video business and

[127] *See Navigation Device NPRM*, ¶ 81.

result in decreased consumer choice. These additional, material costs are especially unwarranted because the benefits of the Commission's proposal are largely, if not completely, chimerical. In sum, not only is the Commission proposing to solve a problem that does not exist, it proposes to do so at the expense of consumers and the financial soundness of smaller MVPDs.

A. The Commission's proposal has many unknown and untested elements; ACA assumes that it ultimately seeks to enable consumers to "to watch what they pay for wherever they want, however they want, and whenever they want."[128]

From the outset, modeling the Commission's proposal has proven challenging because, as the Commission states, it does "not wish to impose a single, rigid, government-imposed technical standard on the parties," but believes "it would be impossible to build widely used equipment without some standardization."[129] The Commission then delegates to Open Standards Bodies the responsibility of defining the specifications to which its proposed information flows must conform.[130] As a result, compliance requirements are left largely undetermined and would remain unresolved even after the Commission adopts the rules as proposed.[131]

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[128] *Id.*, ¶ 11.

[129] *Id.*, ¶ 34.

[130] In these comments, ACA provides limited commentary about its concerns with the structure and operations of Open Standards Bodies (*see infra.* Section IV, arguing that the delegation to the Open Standards Bodies is unconstitutional and otherwise unlawful.). It will offer further comment in later submissions. That said, ACA notes that the Commission structured the DSTAC without giving smaller MVPDs a seat at the table. Thus, the Commission's proposal, which rests on the Competitive Navigation proposal offered in the DSTAC, inherently does not account for ideas and concerns of smaller MVPDs. The Commission should ensure the same error is not made by Open Standards Bodies, assuming the Commission's proposal goes forward.

[131] *See Navigation Device NPRM*, ¶ 2 and Appendix A, Proposed Rules, § 76.1211(a) and (i).

ACA has sought to surmount this problem, at least in part, by examining the Commission's objectives, which it believes provide a general sense of the likely trajectory of requirements for MVPDs. Most importantly, the Commission describes a key objective as device portability, that is, consumers should be able to use the same device with different MVPDs throughout the country without purchasing additional equipment.[132] Furthermore, the Commission suggests the possibility of relying on the specifications referred to in the Competitive Navigation approach as a "fallback" or "safe harbor" set of specifications should Open Standards Bodies be unable to reach agreement.[133] The specifications for the Competitive Navigation approach are similarly positioned by advocates as allowing for national portable retail navigation devices.[134] Consequently, ACA's approach in seeking to analyze the Commission's proposal relies, to the extent they are comprehensible and workable, on the requirements of the Competitive Navigation approach.

B. Requirements proposed by the Commission depend on technology that does not exist and for which comparable deployments have failed.

The requirements proposed by the Competitive Navigation proponents in the *DSTAC Report* are not adequately defined, and the subsequent iteration of their proposal[135] – which either is incorporated into or is the basis of requirements in the *Navigation Device NPRM* – contains substantial technical limitations. Some of these technical limitations, in fact, require the development of solutions or the deployment of solutions that have been attempted and have a

[132] *See e.g. id.*, ¶ 11. *See also id.* at 57, Statement of Chairman Tom Wheeler.

[133] *See id.*, ¶ 43.

[134] *See DSTAC WG4 Report* at 107.

[135] *See* See Public Knowledge Notice of Ex Parte Presentation, Attachment, MB Docket No. 15-64 (Oct. 20, 2015) ("PK October 2015 Ex Parte").

track record of failure. There is no evidence that these technologies will work, and no way to determine what costs MVPDs would incur to implement the mandates.

For example, the Competitive Navigation approach depends on MVPDs' systems to make their information flows available by converting their unique system elements into a consistent standard output.[136] While the correspondence from Competitive Navigation proponents suggests this is possible today, ACA has seen no evidence either that this is the case or that a solution can be readily developed.

That no existing solution addresses the diverse elements of MVPDs' systems is exemplified by the weaknesses associated with Competitive Navigation proponents' recommendations regarding security system compliance. To meet the Commission's requirements in this area, Competitive Navigation proponents suggest MVPDs could disaggregate their networks to provide the conditional access in the cloud and propose that a well-defined widely-used security system be put in place between the cloud and retail navigation devices.[137] MVPDs have attempted without success to enable the conversion of security from one security system to another. These efforts have failed, even though they were attempted within fully proprietary systems, such that the incoming and outgoing security systems were controlled by the same vendor (*e.g.*, Nagravision, NDS/Cisco).[138] In addition, most of these efforts have launched with significant delay (*e.g.*, Horizon in the Netherlands[139]), if at all (*e.g.,*

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[136] *See* DSTAC WG4 Report at 106 ("To support the operation of commercial competitive devices to receive all MVPD content on all MVPD systems … DCAS solutions as discussed in WG reports should abstract the difference in MVPD network technology into a common interoperable format.").

[137] This system architecture may exist within a device in the consumer's home (i.e., a gateway device) or within the MVPD's network (i.e., in the headend or cloud).

[138] ACA assumes use of proprietary systems would be impermissible under the Commission's proposed rules.

[139] *See* "Long-awaited Horizon gateway set for launch this week," FierceCable (Sept. 4, 2012) *available at* http://www.fiercecable.com/story/long-awaited-horizon-gateway-set-launch-week/2012-09-04, The

Canal Digital, Norway[140]). Such gateway projects are typically very large and expensive projects and depend on substantial integration by each MVPD. Therefore, it is impossible for ACA to project the timeline or the costs associated with developing a solution for all MVPDs.

As another example, it appears that the Competitive Navigation proponents have not yet developed solutions to address the diversity of approaches that exist across services among the diversity of MVPDs such as video-on-demand, pay-per-view and emergency access systems. As it is uncertain how the Competitive Navigation approach proposes to resolve these gaps, it is impossible to identify costs associated with meeting these requirements.

C. Smaller MVPDs have substantial sunk investment in diverse network and device ecosystems which do not currently meet the Commission's proposed approach.

To achieve the level of standardization required by the Competitive Navigation approach, MVPDs would need to adhere to standards across many categories of system elements, including delivery method (i.e., IP, digital, analog), information flow format (*e.g.*, video and audio codecs, EAS, metadata) and Conditional Access/Digital Rights Management and entitlement approaches. However, MVPDs do not currently adhere to a specific set of standards within these categories. Rather, the outputs delivered by MVPDs vary widely by provider and by system.[141]

Horizon gateway was originally planned for rollout Spring 2012, but was not launched until September 2012 due to a number of complications, including difficulty negotiating content rights with programmers.

[140] *See* "Canal Digital and NDS Enable a New Generation of Immersive, Personalised TV Entertainment," BusinessWire (Aug. 9, 2012) *available at* http://www.businesswire.com/news/home/20120809005142/en/Canal-Digital-NDS-Enable-Generation-Immersive-Personalised. The Canal Digital project was announced in Norway in 2012 has not launched to date.

[141] *See* Declaration of Jason Nealis, ¶ 3 (discussing RCN/Grande's use of equipment from Arris and Cisco); Declaration of Vin Zachariah, ¶ 3 (discussing the diversity of technologies in Vyve's systems).

Smaller MVPDs, which generally lag larger MVPDs in moving to new technologies,[142] have spent the past decade migrating from analog to digital technology. Some are even still in the process of making this transition. ACA expects that over the long term, IP delivery and other specific delivery format and security/entitlements approaches will be naturally adopted by smaller MVPDs since they offer a more cost-efficient way to better meet their subscribers' needs while allowing for the introduction of additional services. However, for smaller MVPDs, progress toward advanced video delivery technologies will take many years, principally because they have limited resources.

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[142] Traditionally, large MVPDs introduce new standards, and, because of their greater scale, can influence equipment vendors' product development focus. *See* "Cable Show 2013: Comcast We'll Be Ready for Ultra HD," Multichannel News (June 12, 2013) *available at* http://www.multichannel.com/news/distribution/cable-show-2013-comcast-well-be-ready-ultra-hd/261713 and "Comcast demo lights path to 4K ultra HD," FierceCable (June 11, 2013) *available at* http://www.fiercecable.com/story/comcast-lights-path-4k-ultra-tv-demo-elemental-arris-broadcom/2013-06-11-0. For example, Comcast was the first MVPD to pursue the technical challenge of delivering 4K/UHD content over both IP and QAM, leveraging its internal development resources through Comcast Labs and its partnerships with technology vendors to conduct a 4K demo at The Cable Show in 2013. *See also* "DTA Security, Prepared for DSTAC WG3," Comcast (July 2, 2015). Comcast introduced DTA Advanced Security, a security platform developed by Comcast in partnership with ARRIS, Cisco, and CCAD. Comcast negotiated with ARRIS and Cisco to develop a DTA security platform that is portable across ARRIS and Cisco systems. *See also* "Cox may license Comcast RDK middleware platform," FierceCable (June 12, 2013) *available at* http://www.fiercecable.com/story/cox-may-license-comcast-rdk-middleware-platform/2013-06-12. Arris, Pace, and Humax also all license the RDK from Comcast, allowing the Comcast-developed toolkit to serve as an industry standard.

As a result of industry norm, smaller MVPDs often have to wait for new technologies and equipment to be made available for their systems. Many ACA members have experienced delays in obtaining access to innovative technology and equipment, citing a "trickle-down effect." One ACA member, for instance, had to delay its all-digital transition because it took 15 months to receive a guide that was already available to larger MVPDs' set-top box models.

The Commission has acknowledged this reality in the past, noting that because "large cable operators … generally dictate equipment features to manufacturers and commonly get priority in the delivery of that equipment," there is a strong rationale for the Commission to provide relief for smaller operators from regulatory mandates. *See Accessibility of User Interfaces, and Video Programming Guides and Menus*, Report and Order and Further Notice of Proposed Rulemaking, MB Docket No. 12-107 and MB Docket No. 12-108, ¶ 115 (Oct. 29, 2013).

As described above, to remain competitive, smaller MVPDs are motivated to meet their video subscribers' needs. Despite these intentions, smaller providers face barriers to sun-setting their legacy infrastructure in the immediate term.[143] Making substantial system-wide technical changes requires a combination of substantial planning and sufficient resources,[144] and smaller MVPDs must balance their limited resources across vital projects such as developing the innovative offerings described previously, expanding network capacity, and deploying broadband services.[145] As smaller MVPDs are particularly limited in their access to resources and the rates at which they can secure financing, it will take many years to complete major system changes in a sustainable way.

Smaller MVPDs also are limited in their ability to upgrade their systems because they are often locked in to the hardware and software ecosystem of a single vendor for much of their system infrastructure. For example, many ACA members' digital systems rely almost entirely on the two major cable equipment vendors, Arris or Cisco. While some MVPDs use equipment from other vendors, such as TiVo or Roku set-top boxes, within these ecosystems, this requires extensive and costly integration efforts.

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[143] *See* Declaration of Chris Hilliard, President, USA Communications ¶ 4 (Apr. 19, 2016) ("Although converting to digital frees up capacity in the long run, there is no return on investment. Finally, if we were to convert to digital and have additional capacity, we anticipate content providers would require us to offer additional channels, which, given the escalating fees for video programming, would be cost-prohibitive.").

[144] Full QAM to IP system conversions can cost upwards of $1,300 per subscriber. *See* "FTTH Evolution of HFC Plants," (Sept 30, 2011) *available at* http://www.cisco.com/c/dam/en/us/solutions/collateral/service-provider/cable-access-solutions/ftth_evolution_hfc_plants_brophy.pdf.

[145] *See* Declaration of Vin Zachariah, ¶ 6 ("Vyve's long term goal is to covert its systems to IP…This transition costs multiple millions of dollars and therefore depends on carefully planning and ongoing validation that there is a business case to do so.").

As MVPDs vary greatly in terms of available resources, vendor ecosystems, subscriber size, levels of headend integration and other factors, their ability to meet and comply with the Commission's proposed requirements not only is limited, but varies across each requirement in the Commission's proposal. The Competitive Navigation approach requires MVPDs to deliver their information flows over IP, but approximately 86 percent of ACA members' subscribers are served not by IP but by digital systems.[146] Some MVPDs still deliver their video services over analog systems or hybrid systems that combine digital and analog service.[147] Smaller MVPDs also offer a variety of formats for content delivery (*e.g.*, video and audio codecs). For example, while some deliver the majority of their video services using MPEG4, others use MPEG2, to accommodate certain set-top boxes. In addition, there are a variety of formats for emergency access systems and metadata. Finally, smaller MVPDs employ a variety of different security system types, including System on a Chip, smartcard (i.e., Cablecard) and downloadable approaches.

Smaller MVPD systems differ not only in how system elements are delivered to set-top boxes but in the vendors from whom they purchase their system technology. Vendors' technologies often differ from one another, posing further challenges to achieving standardization as the Commission's proposal requires. Both Arris and Cisco, by providing equipment with many proprietary elements, limit the extent to which their customers may use equipment from other vendors. For example, ACA's members' digital systems using Arris typically own a Digital Addressable Controller ("DAC") and therefore rely on Digicipher conditional access. MVPDs using Cisco have a Digital Network Control System ("DNCS") and

[146] As discussed below, some smaller MVPDs still use analog technology.

[147] *See* Declaration of Chris Hilliard, ¶ 3; Declaration of Jody Huestess, Vice President, Sales and Marketing, AMTC, ¶ 4 (Apr. 20, 2016); Declaration of Vin Zachariah, ¶ 3.

rely on PowerKey conditional access. Even when MVPDs are able to integrate other vendors' equipment, they can be limited in responding to new specifications requirements, should their vendors' ecosystems not comply.

Some ACA members have deployed IP, but here too, they would face challenges in complying with the Commission's proposals, once they achieve a sufficient level of definition. These MVPDs with IPTV systems also use a variety of vendors, who employ a variety of different specifications. IP-based conditional access/DRM vendors include Verimatrix, Conax, Widevine, Latens and CryptoGuard and many others. While some vendors' security systems are interoperable with the equipment of other vendors, other vendors require their customers to use their partners' or their own proprietary set-top boxes and other equipment. In addition, every security system uses proprietary signaling and encryption for the delivery of entitlements and keys; so for every security system supported, there is a separate set-top box client required. Security systems may also use different variants of encryption.

Another diverse array of other video system vendors would be involved in having "IP-based" MVPDs disaggregate their network to provide the information flows. For instance, MVPDs work with a variety of middleware vendors. A subset of vendors serving IPTV operators include Adtec, Aviva, BCC, Beenius, Cubiware, EasyTV, Ericsson, Huawei, IKON, InformConsult, Innovative Systems, Minerva, NanguTV, and TiVo. Just as with security vendors, some middleware vendors require their customers to use their partners' or their proprietary set-top boxes and other equipment. MVPDs also work with a variety of billing integration vendors including Mediaroom Provisions, GLDS, CSG and Evolution Digital. Metadata vendors include Synacor, Rovi and Tribune.

Because smaller MVPDs often grow via acquisition, many operate multiple systems with a variety of architectures relying on different vendor ecosystems. It is not uncommon for smaller MVPDs to operate two or more conditional access systems and use multiple headend solutions. In fact, one ACA member has six different conditional access systems active within its footprint.

As a result of all of these differences in their ecosystems where they have sunk investment and which do not currently comply with the Commission's proposal to disaggregate their networks, smaller MVPDs would incur substantial expenses and need significant time to comply with the mandate.[148] ACA examines these costs more closely in the following sections.

D. Requirements proposed by the Commission would depend on MVPDs making changes to their systems that are not technically feasible or that are not permissible due to contractual rights.

The Commission's proposal would require MVPDs to make changes to their systems that they are restricted from making due to technical limitations or contractual restrictions. As a result, for many of ACA's members, the only way to comply would be to completely replace their existing system architectures, which would be cost-prohibitive.

1. A cloud based conversion approach is not technically feasible for most MVPDs.

The Competitive Navigation proposal's cloud based conversion approach is not feasible because it would require MVPDs to allocate bandwidth that is not available. For MVPDs using digital technology, bandwidth is a scarce resource, and they are constantly working to make their bandwidth available as efficiently as possible and to optimize its allocation, for instance, to

[148] *See* Declaration of Vin Zachariah, ¶ 6 ("the only way for us to implement the FCC's Navigation Device proposal would be to put in place highly expensive infrastructure that is inconsistent with the type of investments we plan to make."); *See* Declaration of Jody Heustess, ¶ 10 ("ATMC would face great challenges to implement such changes. ATMC does not have the bandwidth to simulcast QAM-based services and IP-based services.").

make available premium services and enhance the capacity of their broadband networks. The cloud based conversion approach, however, requires MVPDs to duplicate streams (i.e., linear TV channels, VOD[149] and other content) from the headend to customer premises. Because every video stream sent to every customer requires dedicated bandwidth, this approach would require large amounts of bandwidth, which are not available in practice. Put simply, MVPDs do not have nearly sufficient bandwidth available to implement the cloud based approach in tandem with their current offerings.

As an alternative to implementing the cloud based approach in conjunction with current offerings, MVPDs could disable their current streams and replace them with compliant streams. But, this approach would require the MVPD to replace or substantially modify all headend and customer premise equipment, including every set-top box in its system. MVPDs offering VOD within a digital Cisco ecosystem, for instance, would be unable to duplicate their VOD services using a new VOD platform due to technical limitations.[150] The cost to implement a conversion of this kind would be extremely burdensome for smaller MVPDs, as they typically do not have the resources either to replace all of the set-top boxes in their systems at one time or to replace controllers.[151]

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[149] MVPDs offering digital VOD service within a Cisco ecosystem would likely be unable to duplicate VOD streams in IP without replacing their Cisco controllers. Updating VOD streams to IP would rely on the replacement of the MVPD's VOD platform and, as Cisco's required VOD conditional access operates on a session basis, it is unlikely a VOD platform developer would build a new platform to Cisco's conditional access standards.

[150] *See* Declaration of Jason Nealis, ¶ 9 ("RCN/Grande also are concerned that we may incur substantial costs to comply with the proposal. This is due to a variety of factors, including that it is likely we will need to implement different solutions for our systems with Arris equipment and our systems with Cisco equipment.").

[151] From discussions with ACA members, the cost of a controller is estimated to be approximately $500,000.

2. MVPDs using HITS would face excessive costs to become compliant.

Many of ACA's smaller members who want to offer digital service but are unable to afford substantial digital infrastructure do so with the support of Comcast's Headend in the Sky (HITS) service.[152] HITS, in combination with NAS, NAS-RAC or QuickTake, allows operators to offer digital service by virtually accessing Comcast's own headend. Typically, HITS users offer their basic service over analog to meet EAS and local advertising requirements.

MVPDs do not have control over the information flows delivered by their HITS systems and therefore would be unable to assure compliance with the Commission's proposed mandates under their current system architecture. If their vendors were unwilling to make required changes to their systems, these MVPDs would be forced to substantially modify their system architecture and purchase a significant amount of headend infrastructure and customer premise equipment. This would include replacing every set-top box in the MVPD's system, which would be extremely burdensome.

3. MVPDs would incur substantial costs to maintain content security and comply with content agreements.

The content security system operated by MVPDs, which is based on proprietary technologies, is robust because a single party is solely responsible for ensuring content remains secure and thus is incentivized and empowered to do so. This "trust factor" enables MVPDs to work with content providers to offer high value and diverse content to subscribers. This "trust factor," however, will be jeopardized under the Commission's proposed rules since it would create a heterogeneous device ecosystem, where responsibility is divided among multiple entities with varying levels of motivation. This naturally decreases the ability to ensure content

[152] *See* Declaration of Chris Hilliard, ¶ 5; Declaration of Vin Zachariah, ¶ 3.

remains secure and would require MVPDs to incur substantial costs to maintain security to the extent it is possible. Content security is not only integral to the MVPD business case which is based on the delivery of proprietary programming to subscribers, it is also a key MVPD responsibility in agreements with programmers.

For instance, MovieLabs recently published Enhanced Content Protection ("ECP") recommendations in advance of the expected rollout of high-value content such as 4K/UHD video.[153] Many of these recommendations are unachievable in a heterogeneous device ecosystem.[154] As content providers would be expected to adopt these requirements and enforce them within their contractual relationships, MVPDs would be placed in a position in which they could not both comply with their contractual obligations to content providers and meet the requirements associated with the Commission's proposal. In sum, under the Commission's requirements, MVPDs and consumers would be harmed as the development and release of high value content is slowed and carriage fees are increased to compensate for the expected losses due to piracy.[155]

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[153] *See* "MovieLabs Specification for Enhanced Content Protection – Version 1.1," MovieLabs (2015), *available at* http://www.movielabs.com/ngvideo/MovieLabs%20Specification%20for%20Enhanced%20Content%20Protection%20v1.1.pdf ("MovieLabs ECP Specification").

[154] *See* MovieLabs ECP Specification at 3-7. Recommendations that could not be met include: "The system shall have the ability to revoke and renew versions of its client Component… The system shall have the ability to revoke subsidiary code signing certificates if these are used as part of the system's root of trust…The system shall have the ability to revoke individual devices or classes of Devices… The system shall proactively renew its security related software components… Processes and agreements shall be in place to enable rapid response in renewing any compromised software component of the system."

[155] In a patent filing published September 2011, Google noted that potential revenue losses from piracy may make content providers unable to obtain premium content or may lead content providers to need to pay more to content owners to compensate for the potential losses. *See* "Method and apparatus for preventing piracy of digital content," Google, Patent No. US6289455 (2011), *available at* http://www.google.com/patents/US6289455.

MVPDs also would face substantial barriers and incur substantial costs to comply with content agreements in a heterogeneous device ecosystem. MVPDs are at times required by content producers to audit their networks by tracking and reporting any potentially illegal behavior and advertising viewership on all devices attached to their systems.[156] The limited visibility into the activities of third party devices under the Commission's proposed rules would make this process significantly more onerous. Moreover, although third party devices are required to adhere to copy control and other rights information and adequate content protection,[157] it is more difficult to continually monitor for compliance and robustness across a diverse ecosystem of third party devices than it is to deploy a device that an MVPD has tested and confirmed as compliant and robust, as is the case today. As ACA has repeatedly noted, smaller MVPDs have little leverage in their negotiations with their content and programming vendors. It is likely that amended content agreements would impose higher costs for MVPDs, as these vendors would attempt to mitigate the risk resulting from a weakened content security ecosystem.

E. To the extent that the costs of the Commission's proposal can be identified and priced, they would be highly burdensome for smaller MVPDs, resulting in decreased consumer choice or increased prices.

As discussed, because so many elements of the Commission's proposal are not known or solutions do not exist, ACA cannot provide an estimate of the costs smaller MVPDs would incur to disaggregate their networks and provide a compliant security system as the

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[156] *See* "Myth and Reality: Examining the FCC's 'Fact Sheet'," The Future of TV Coalition (Jan. 27, 2016). ("Under the proposed framework, content providers ARE NOT assured their agreed-upon channel location or how they will be packaged, they ARE NOT protected from third party ads and marketing that compete with or dilute the advertising agreed to with that programmer, ARE NOT provided the audit and ad verification reports that advertisers depend on.").

[157] *See Navigation Device NPRM*, ¶ 71 ("We seek comment on whether licensing can ensure adherence to copy control and other rights information ("compliance") and adequate content protection ("robustness").").

Commission required by the Commission's proposal. However, ACA has endeavored to determine the magnitude of at least some of the proposal's implementation costs. As described above, for several of these technologies, operators would incur costs related to the development of standards, specifications, and products. These costs, which are non-trivial, have not been accounted for here, as they are unknown. In addition, ACA does not include costs required to train customer support staff, operate software on an ongoing basis or conduct plant upgrades as would be needed within analog systems whose plant is not capable of delivering several of the information flows.

1. Gateway device costs

While there are substantial barriers to developing gateway devices capable of converting an MVPD's system to comply with the Commission's proposal, ACA sought to determine the cost of such a device, which would be installed within households with third party devices to offer information flows over IP. A gateway device would receive inputs in the system's native delivery technology (e.g., QAM) and output delivery over IP. Third party devices could then connect directly to the gateway device to receive IP service. A gateway device also should convert VOD streams to IP from other delivery approaches, though ACA doubts that this capability would be possible or at least it would only be achieved by incurring high per-system costs. As MVPDs use a variety of audio and video formats, and the Compliant Navigation approach requires standardization of these formats, a gateway would need to integrate format conversion components, for example to convert a non-compliant video or audio format to the appropriate compliant format. As described above, the gateways described by Competitive Navigation proponents would be substantially more complex than those available in the market today. These gateways would require several components, some of which may be patent protected, which could significantly increase cost relative to existing gateway devices. Based

on ACA's discussions with MVPDs and vendors and without factoring in development costs, gateway devices that most closely resemble what would be required would cost MVPDs approximately $350 per device.

2. Security system costs

As there does not appear to be an existing gateway device capable of converting a non-compliant security system, ACA estimated the cost associated with deploying a new security system for linear service to be $50,000 per headend in fixed costs, plus an additional, one-time variable cost of $25 per household. The $50,000 fixed cost includes headend equipment such as a key server but does not include additional fixed costs that would generally be required to integrate VOD conditional access into the security system, which are unknown. Additional ongoing licensing costs exist but have been excluded from the analysis.

3. Testing and systems integration costs

MVPDs would be required to make substantial changes to their systems to integrate a new gateway device. As is typical with deployments of this kind, each MVPD would need to conduct an extensive testing process encompassing both laboratory tests and limited field trials. In addition, requirements associated with the Commission's proposal, such as the authorization and management of third party devices, would require MVPDs to make substantial revisions to how their controllers operate and modify their billing and inventory management systems. Smaller MVPDs would typically rely on external consultants to complete many of these systems integration elements. While there is no way to know the full extent of changes that would be required, ACA estimates the cost could be as high as $1 million per headend or more.

F. The costs of implementing the Commission's proposal would harm smaller MVPDs and their subscribers.

The costs to comply with the Commission's proposal discussed above are not exhaustive; yet, they are more than sufficient to harm smaller MVPDs' pay-TV and broadband businesses. Should they be mandated to comply with the Commission's proposal, smaller MVPDs would be forced to divert resources that would otherwise be used to invest in innovative solutions to meet consumer demand. In the worst case scenario, smaller MVPDs would be forced to discontinue offering video services altogether.[158]

Smaller MVPDs would have few options for financing even the limited costs described above. Typically, smaller MVPDs do not have capital readily available to devote to a mandate of this order of magnitude. Therefore, a smaller MVPD facing a cost burden of this magnitude would most likely first seek to reallocate funds from other video initiatives toward this use. For a typical MVPD, the resources would alternatively be allocated to projects that better address consumer needs, such as the development and deployment of over-the-top applications and new devices, TVE initiatives, and efforts to integrate over-the-top content with their linear TV and on-demand content.

Should the resources available from video initiatives be insufficient to cover an MVPDs' costs, they would likely look next to reallocate funds from non-video initiatives for this use, such

[158] Based on standard financial considerations of ACA members, many would consider their video businesses unsustainable if they were faced with incremental total capital expenditures of 30 percent. At a third party device adoption rate of 25 percent of subscribers, the incremental capital required by smaller MVPDs would exceed 30 percent of planned expenditures for ACA's largest members and climb to over 400 percent for ACA's smallest members. This assumes only costs quantified above ($1.05 million fixed cost for systems integration and security system components, $300 per subscriber adopting a set top box, and $25 per subscriber to deploy a compliant security system).

as current investments in network capacity improvements to increase broadband speeds and provide consumers with improved quality of service.

While smaller MVPDs could attempt to secure financing from an outside source, they are limited in their ability to access funding and typically obtain capital for projects of this magnitude from small regional banks. They do so at relatively higher interest rates than their larger counterparts. Because there would be no return on the investment required to meet the Commission's proposal and MVPDs in this position would need to overleverage themselves, banks would likely be unwilling to provide this financing. Therefore, smaller MVPDs may not be able to finance the requirements at all.

Should an MVPD not be able to fund the costs with internal or external resources, its only alternative would be to pass on to consumers the costs associated with the Commission's proposed rules. Given the healthy levels of competition in the video market as described above, this would be a dangerous proposition for smaller MVPDs, some of which could be forced to discontinue video service altogether.

G. The benefits for consumers from the Commission's proposal are at best illusory

1. Consumers are not clamoring for navigation devices from unaffiliated vendors; instead they want ease of access to video programming from the multiple devices they already use.

The Commission's assertion that consumers need to be "empowered" to access video programming and devices does not reflect the feedback that MVPDs are receiving.[159] On the contrary, based on the experiences of ACA members, consumers are satisfied with their set-top

[159] *See Navigation Device NPRM*, ¶ 1.

box options. As echoed by one ACA member, "[I am] not aware of any dissatisfaction among our customers regarding the type and selection of set-top boxes made available to them."[160]

As indicated earlier in these comments, smaller MVPDs are providing consumers with innovative devices in increasing numbers, for affordable prices.[161] Smaller MVPDs are deploying a variety of set-top boxes and with improved functionality and providing better customer experience. For example, approximately 50 percent of RCN's set top boxes now use the TiVo platform.[162] ACA anticipates that the deployment of set-top boxes using the TiVo platform will continue to expand now that NCTC has entered into an agreement with TiVo, facilitating access by smaller MVPDs.[163]

While consumers do not have substantial need for more set-top box choices, they seek to have seamless access to their video content across their current set of devices. It is not the Commission's proposal but an app-based approach that aligns with customer needs and is supported by MVPD trends towards more app-based delivery of video content and such services as SlingTV and Sony Vue.[164]

2. The proposal will result in subscriber confusion.

The Commission should not underestimate the potential for its proposed rules to complicate the pay-TV experience for consumers. Even today, with relatively homogeneous

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[160] *See* Declaration of Jody Heustess, ¶ 11.

[161] *See* Section II, *supra*.

[162] *See* Declaration of Jason Nealis, ¶ 5.

[163] *See* Section III, *supra. See* Declaration of Vin Zachariah, ¶ 5 (discussing Vyve's implementation of the TiVo platform).

[164] *See* SNL Kagan, "OTT players take top 2 video subscription service spots in Q4'15" (Mar. 29, 2016). SlingTV finished 2015 with 500,000 subscribers after being available for less than a year.

ecosystems, MVPDs struggle to integrate devices from the same vendor, owing in part to the variety of services offered over different components. This complexity will increase exponentially with the Commission's proposal, despite the Commission's concept that it can leapfrog these challenges by creating supposedly standards-based information flows and known security systems.

In a third party device ecosystem, customers who experience an issue with their viewing experience would be unable to easily determine which vendor is best suited to address the problem – the MVPD, the device manufacturer, or some other third party. Regardless, ACA members know, based on experience, that when third party devices are not operating, customers automatically seek help from the MVPD whenever they experience a disruption to their video service. Unfortunately, MVPDs generally lack the ability to offer technical support for equipment provided by a third party retailer. The Commission's proposal would exacerbate this problem, as the proposal introduces additional variables, including technical elements that MVPDs would not be able to address. This inability to provide requested customer support would leave subscribers frustrated and unsure where to place the blame.[165]

The Commission's proposal also places the burden of upgrading navigation devices on consumers, an important concern in a dynamic market. As MVPDs upgrade their networks to offer 4K and other innovative video services, the navigation devices used by subscribers will require the capacity to support these services. Consumers using outdated third party devices

[165] *See* Declaration of Vin Zachariah, ¶ 56 ("We also would incur costs with comply with the proposal, for instance…additional truck rolls to determine whether the failure of a third party device to operate is due to that device or our network."); Declaration of Jody Heustess, ¶ 11 ("From ATMC's experience, it will take years for devices using those [the FCC's] standards to work seamless with our network, assuming they ever will.").

may find themselves unable to receive video service until they purchase a newer model, creating substantial consumer confusion and frustration.

IV. THE COMMISSION'S PROPOSAL IS UNLAWFUL

It is axiomatic that the Commission may only act within the bounds of its statutory authority.[166] Section 629 cannot be read and has never been read by the Commission as an unlimited grant of authority to the Commission to do whatever it pleases with respect to navigation devices. The Commission is not free to suddenly find an ambiguity in a statutory term describing navigation devices – "equipment" – where none exists and then interpret the language beyond the breaking point to regulate navigation software as well as hardware simply because it believes it good policy to do so. It is not free to require MVPDs to disaggregate their services where Congress did not see fit to do so. The Commission's proposed disaggregation of MVPD service fails to respect the statutory boundaries on its authority set by Congress.

Section 629 addresses nothing more than the commercial availability of retail equipment that can receive multichannel services and other services MVPDs have chosen to "offer" and "provide."[167] Section 629 does not justify the regulatory creation of a class of "Navigable Services" never contemplated in the statute and unrecognized by subscribers. Nor does Section 629 require MVPDs to both provide those fictive services and then disaggregate them into three information flows to be made available for free to third party device manufacturers or applications and services providers in a certain format so they may package them into their own

[166] *See Am. Libr. Ass'n v. FCC*, 406 F.3d 689, 698 (D.C. Cir. 2005) ("The FCC, like other federal agencies, 'literally has no power to act . . . unless and until Congress confers power upon it." The Commission 'has no constitutional or common law existence or authority, but only those authorities conferred upon it by Congress.' . . . Hence, the FCC's power to promulgate legislative regulations is limited to the scope of authority Congress has delegated to it.") (American Library Association).

[167] 47 U.S.C. § 549(a).

multichannel video offerings.

As the *Navigation Device NPRM* notes, although Section 629 does not define the term "navigation device," this provision "directs the Commission to 'adopt regulations to assure the commercial availability [from vendors unaffiliated with any MVPD] of . . . converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems."[168] The *Navigation Device NPRM* tentatively concludes that the Commission has legal authority to implement its proposal based on a novel, but implausibly expansive, interpretation of the statutory term "equipment" and a misreading of the text and purpose of Section 629 that would radically extend the Commission's jurisdiction far beyond the bounds established by Congress. This the Commission cannot do. Nor may the Commission rely on the modest grants of authority contained in Section 624A and 335 of the Act to expand its authority as contemplated in the *Navigation Device NPRM*.[169]

A. The proposal exceeds the Commission's statutory authority.

A necessary element of the Commission's proposal is a novel finding that the term "equipment" in Section 629 is now "ambiguous," and that the Commission can therefore offer an interpretation that encompasses, for the first time, both hardware and software, including applications. This expansive reading would permit the Commission to regulate MVPDs in any manner it believes necessary to assure the commercial availability of competitive software or applications used to access multichannel video programming and other services over

[168] *See Navigation Device NPRM*, ¶ 21.

[169] *See Navigation Device NPRM*, ¶ 24 (seeking comment on the Commission's authority under Section 624A and 335 of the Act).

multichannel video programming systems.

The Commission now seeks to interpret "equipment" as used in Section 629 as including both hardware and software based on the observations that the software features of equipment used to access MVPD services "have long been essential elements of such equipment," and because certain functions can now be performed interchangeably by either hardware, software or a combination of both.[170] The Commission believes, according to the *Navigation Device NPRM*, that "this broad interpretation is necessary to ensure that these third parties are provided the information they need from MVPDs to facilitate the commercial development of competing navigation technologies in order to fulfill the goals of Section 629."[171] This "broad" interpretation defies both the statutory text and the Commission's long settled understanding of its meaning. The Commission cannot take a perfectly clear term, "equipment," upend settled law by simply declaring it to be ambiguous, and thereby expand its statutory authority beyond recognition to cover any and all "navigation technologies."

1. The Commission's interpretation of the term "equipment" is both implausible and exceeds its authority.

For the first time since the enactment of Section 629, the Commission finds the term "equipment" to be ambiguous and proposes a broad interpretation to cover not only equipment as commonly understood, i.e., physical hardware, but software as well, including applications. The Commission thus seeks to regulate beyond the authority Congress granted in Section 629.

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[170] *See Navigation Device NPRM*, ¶ 22. The Commission relies heavily on a single citation to a blog post in footnote 65 for this proposition. The quote in the citation makes clear that the software referenced is narrowly described as that integral to equipment, namely "memory and graphics resources to accept downloaded features" (emphasis supplied) rather than software applications running on the equipment using information flows to offer alternative user interfaces and features provided by the device maker or an apps provider.

[171] *Navigation Device NPRM*, ¶ 21.

As discussed above, Section 629 directs the Commission to "assure the commercial availability . . . of converter *boxes*, interactive communications *equipment*, and *other equipment* used by consumers to access multichannel video programming."[172] The term "equipment," both in natural use and as used in the Communications Act, means physical devices – it does not encompass software unless Congress expressly says so.

Where, as here, a statute does not define a key term, courts look to its ordinary meaning.[173] In ordinary parlance, "equipment" means "the physical resources serving to equip a person or thing."[174] If one asked an electrical engineer about the equipment used at his firm, he would describe the hardware, not the software and applications it runs. Simply put, software — intangible code — is not equipment. Indeed, software is not even considered a "component" of electronic equipment like a computer.[175] It likewise cannot constitute "equipment" standing alone, as the *Navigation Device NPRM* would have it do.[176]

For similar reasons, the Federal Circuit recently concluded that the term "articles" – a far more expansive term than "equipment" – encompasses only "material things" and excludes electronic transmissions.[177] A *fortiori* "equipment" likewise refers to tangible objects — like

[172] 47 U.S.C. §549(a) (emphasis added).

[173] *Sec. Indus. Ass'n v. Bd. of Governors of Fed. Reserve Sys.,* 468 U.S. 137, 149 (1984).

[174] Webster's Third New International Dictionary 768 (2002) (emphasis added); *see also* Black's Law Dictionary 654 (10th ed. 2009) ("[t]he articles or implements used for a specific purpose or activity").

[175] *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 449-51 (2007) (interpreting 35 U.S.C. § 271(f)).

[176] *Navigation Device NPRM,* ¶ 24 (seeking comment on an alternative definition of "navigation devices" that would treat software on the device (such as an application) that consumers can use to access multichannel video programming and other MVPD services) as a "navigation device").

[177] *See ClearCorrect Operating, LLC v. Int'l Trade Comm'n*, 810 F.3d 1283, 1291-92 (Fed. Cir. 2015).

sporting goods and electronic hardware — not intangibles like software.[178]

The rules of statutory construction confirm that result. To avoid "'giving unintended breadth to the Acts of Congress,'" courts employ the principle of "*noscitur a sociis*" — that one can tell the meaning of a word by looking at the company that a word keeps.[179] Here, "interactive communications equipment" and "other equipment" are two-thirds of a short list that begins with "converter boxes." "Converter boxes" indisputably refers to physical hardware. "Equipment" in the company of "converter boxes" is most naturally also read to refer to physical devices, not software. The *Navigation Device NPRM's* contrary theory seeks to give the statute precisely the "unintended breadth" that the rules of statutory construction guide agencies to avoid.

The Communications Act's definitional section confirms that "equipment" does not ordinarily encompass software. Congress provided a definition of "telecommunications equipment."[180] To sweep software within that phrase, and then only in a limited sense, Congress had to define it as "equipment, other than customer premises equipment used by a carrier to provide telecommunications service, and *includes software integral to such equipment*."[181] That additional language would have been unnecessary if "equipment" itself included software. Here, Congress did not use the defined term "telecommunications equipment" in Section 629. Nor did Congress provide an express definition of "equipment" in

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[178] *See, e.g., Lemans Corp. v. United States*, 660 F.3d 1311, 1318 (Fed. Cir. 2011) (sportswear); *Verizon Telephone Companies v. FCC*, 292 F.3d 903, 905 (D.C. Cir. 2002) (hardware "physically" located on "premises").

[179] *Yates v. United States*, 135 S. Ct. 1074, 1085 (2015).

[180] 47 U.S.C. §153(52).

[181] *Id*. (emphasis added).

Section 629 to include software.[182] As further evidence that the inclusion of software should not be implied in references to "equipment," the Communications Act defines other types of "equipment" – such as "customer premises equipment" – without referring to software.[183] That differentiation forecloses the possibility that every provision mentioning equipment concerns software too.

2. The Commission has previously understood that its Section 629 authority extended only to physical equipment.

The understanding that Section 629 grants the Commission authority to regulate physical equipment but not software is reflected in nearly all of the implementation, waiver and enforcement actions the Commission previously issued to carry out Congress' directive to assure the availability of commercial alternatives to leasing a set-top box from an MVPD.[184] As Section 629(a)'s title, "COMMERCIAL CONSUMER AVAILABILITY OF EQUIPMENT USED TO ACCESS SERVICES PROVIDED BY MULTICHANNEL VIDEO PROGRAMMING DISTRIBUTORS," makes clear, the scope of the Commission's authority its limited to assuring that consumers have commercial options available for purchasing, rather than simply leasing, *equipment* to assess multichannel video programming and other services MVPDs offer and

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[182] The *Navigation Device NPRM's* suggestion that the statutory definition of "telecommunications equipment" authorizes the proposed regulations fails on its own terms too. *Navigation Device NPRM*, ¶ 22 & n.71. "Telecommunications equipment" includes only software "integral to"—that is, bundled with—physical equipment. 47 U.S.C. § 153(52). Here, by contrast, the Commission seeks to enlarge "equipment" to encompass stand-alone software capable of replacing physical hardware. *See Navigation Device NPRM*, ¶ 22 ("Certain functions can be performed interchangeably by either hardware, software, or a combination of both").

[183] 47 U.S.C. §153(16).

[184] *See, e.g.*, *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 7924, 7926, ¶ 4 (2003) (extending the integration band deadline to July 1, 2006); *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order, 20 FCC Rcd 6794, 6810, ¶ 31 (extending the integration ban deadline until July 1, 2007).

provide over their systems. It stops well short of authorizing the Commission to mandate MVPDs to disaggregate and repackage their services so as to encourage or support the ability of third parties to create multichannel video programming applications or offerings of their own that do not involve the use of commercial equipment.

The Commission has always understood that its charge under Section 629 began and ended with assuring the availability for commercial purchase of "navigation devices" – statutorily limited to "converter boxes, interactive communications equipment, and other equipment." It has understood navigation devices variously as "the equipment used to access video programming and other services from multichannel video programming systems,"[185] and as "customer premises equipment ("CPE"), used in conjunction with the multichannel video programming" offered and provided by the MVPD.[186] There is no suggestion in the first report and order implementing Section 629 that the statute's scope is ambiguous. Nor can any concerns with ambiguity be found in the order on reconsideration issued one year later. Further, in the *Gemstar* proceeding, the Commission held that a third party programming guide is not a navigation device, a view of the scope of its authority under Section 629 as extending only to equipment (hardware) that accepts the programming and features offered by the

[185] *First Plug and Play Order*, ¶ 1. In this initial implementation order, the Commission confirmed this common sense understanding of the statutory language and its purpose: "[W]e adopt rules to address the mandate expressed in Section 629 of the Communications Act to ensure the commercial availability of 'navigation devices,' the equipment used to access video programming and other services from multichannel video programming systems. The purpose of Section 629 and the rules we adopt is to expand opportunities to purchase this equipment from sources other than the service provider." *Id*., ¶¶ 1, 7 (emphases supplied).

[186] *Gemstar International Group, Ltd.*, Memorandum Opinion and Order, 16 FCC Rcd 21531 (2001) ("Gemstar Order"). *See also Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Order on Reconsideration, 14 FCC Rcd 7596, ¶ 1 (1999) ("First Plug & Play Reconsideration Order").

MVPD,[187] an interpretation of the statute that the Commission has consistently maintained for years.

The *Navigation Device NPRM* attempts to elide the Commission's previously clear understanding by pointing to legislative history directing the Commission, among other things to, "'take cognizance of the current state of the marketplace,'" and a finding that, in today's marketplace, certain navigation functions can be performed by either hardware or software.[188] Based on this observation, the Commission reasons that Congress intended the Commission to have authority to take actions to promote the commercial availability not only of physical navigation devices but any software capable of performing navigation functions as well.[189] This novel interpretation is not plausible.

The Commission has never before expressed the view that software elements of the equipment in isolation from the hardware possess the separate legal status, standing alone, as "equipment" as that term is used in Section 629. Nothing in the snippets of legislative history cited by the Commission supports the Commission's expansive new interpretation. A directive simply to take cognizance of the current state of the marketplace in navigation devices as described in Section 629 cannot suddenly change a statutory limitation into an administrative discretion to replace the critical term "equipment" with the phrase "hardware or software." If it could, the Commission's authority would truly become untethered from the words of the statute, a result Congress could hardly have intended.

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[187] *See 1999 Reconsideration Order*; *accord*. *Cox Communications, Inc. Fairfax County, Virginia Cable System*, File No. EB-07-SE-351, Notice of Apparent Liability for Forfeiture and Order, DA 08-2299 (2008).

[188] *Navigation Device NPRM*, ¶ 22.

[189] *Id*.

3. Section 629 does not permit the Commission to disaggregate MVPD service under the guise of promoting commercial availability of navigation devices.

Even if the Commission were correct that the term "equipment" includes software as well as hardware, Section 629 cannot be read to require MVPDs to alter their services to accommodate equipment that cannot already accept the service that the MVPD chooses to offer and provide. The Commission has previously determined that Section 629 authorizes it to assure a commercial market for devices that receive the services that MVPDs offer and provide, not devices that receive only some selected elements or derivative services that a device manufacturer or service provider may wish to provide in its product.[190] In the *Gemstar Order*, the Commission acknowledged a right to attach consumer electronics equipment to a cable system, but expressly disclaimed an interpretation of Section 629 that would permit it to obligate cable operators affirmatively "to carry any service that is used by such equipment," an interpretation it found directly supported by legislative history.[191] An MVPD has no obligation under Section 629 to provide a service other than those that it chooses to provide in the format the MVPD chooses to provide it. "Indeed, the scope of Section 629 apparently was 'narrowed' to include only equipment used to access services provided by multichannel video programming distributors," as the Commission itself has recognized.[192] Further evidence of Congress' intent

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[190] Gemstar Order, ¶ 31.

[191] *Id*. The version of Section 629 passed by the House would have granted the Commission authority "to assure competitive availability, to consumers of telecommunications subscription services," a broad category including "video, voice, or data services for which a subscriber charge is made," including by third parties, or, as the House Report accompanying H.R. 1555 indicates, includes "telecommunications subscription services arriving by various distribution sources." H.R. 1555, 104th Cong. § 203. The conference agreement shows that this sweeping authority was rejected, in favor of a more tailored grant of authority. "The scope of regulations are narrowed to include only equipment used to access services provided by multichannel video programming distributors." H.R Rep. No. 104-204, at 112 (emphasis added).

[192] *Gemstar Order*, ¶ 31, citing S. Conf. Rep. No. 104-230 at 181 (1996) ("The Commission has not found that the right to attach equipment to a cable system can be expanded to include the obligation by cable

to circumscribe the scope of the Commission's authority under Section 629 may be found in Section 629(f), which affirms that "[n]othing in this section shall be construed as expanding or limiting any authority the Commission may have under law in effect" prior to enactment of the Telecommunications Act of 1996.[193]

Notably, the proposals described in the *Navigation Device NPRM* to implement Section 629 are even more far-reaching than those which previously failed for lack of statutory authority. The Commission's attempt to interpret its mandate under Section 629 to authorize adoption of a set of digital encoding and related rules far less sweeping than those proposed in the instant Notice foundered before the D.C. Circuit in the *EchoStar* case.[194] The court recognized that while "§ 629's directive to 'adopt regulations to assure the commercial availability' of navigation devices may afford the FCC some wiggle room in crafting its regulatory regime, the statute's language is not as capacious as the agency suggests."[195] The court rejected the Commission's argument, *inter alia*, that Section 629 authorized adoption of the encoding rules because the encoding rules were an essential component of a Memorandum of Understanding ("MOU") reached between the cable, programming, and consumer electronics industries that would "assure the commercial availability of navigation devices."[196] The court noted:

The FCC cannot simply impose any regulation stipulated in an MOU as a means

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operators to carry any service that is used by such equipment, nor is the legislative history supportive of such a requirement.").

[193] 47 U.S.C. § 549(f).

[194] *EchoStar Satellite L.L.C. v. FCC*, 704 F.3d 992, 997 (D.C. Cir. 2013) ("EchoStar").

[195] *EchoStar*, 704 F.3d at 997-98.

[196] *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, CS Docket No. 97-80, *Compatibility Between Cable Systems and Consumer Electronics Equipment*, PP Docket No. 00-67, Second Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 20885, 20906 (2003) ("2003 Plug-and-Play Order").

> of promoting the commercial availability of navigation devices, no matter how tenuous its actual connection to § 629's mandate. To read § 629 in this way would leave the FCC's regulatory power unbridled — so long as the agency claimed to be working to make navigation devices commercially available.[197]

The court rejected the "obvious implausibility of interpreting § 629 as empowering the FCC to take any action it deems useful in its quest to make navigation devices commercially available."[198] The same is true of the Commission's current attempt to expand the scope of its Section 629 authority beyond anything Congress could or did contemplate. Here, too, expediency does not allow the Commission to require MVPDs to disaggregate their networks, equipment, and services to accommodate both virtual and physical parasitic navigation "devices" or "technologies" so that third parties can offer new services using the resulting disaggregated information flows – as opposed to third party devices accessing the services the MVPD chooses to offer or provide in their original and complete form, such as those manufactured by TiVo and Roku.

Nor, in adopting Section 629, did Congress surreptitiously authorize the Commission to "unbundle" MVPD networks, equipment and services. At the same time Section 629 was adopted, Congress adopted a highly detailed and explicit set of unbundling requirements for incumbent local exchange carriers.[199] But it legislated no such unbundling requirements for MVPDs, even implicitly. The Commission's serial attempts to augment the scope of its unbundling authority for local exchange carriers were struck down by the courts on grounds that would be equally, if not more, applicable to the proposed Competitive Device rules given

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[197] *EchoStar*, 704 F.3d at 998.

[198] *Id.*, 704 F.3d at 1000.

[199] 47 U.S.C. § 251(c)(3) (unbundled access to network elements on reasonable rates, terms and conditions). *See also* 47 U.S.C. § 222(e) (requiring incumbent telecommunications carriers to provide subscriber listing information on an unbundled basis on reasonable rates, terms and conditions).

Section 629's complete silence about unbundling: willful blindness about the availability of the unbundled network elements from other providers;[200] failure to evaluate cost disparities between incumbents and new entrants "that would make genuinely competitive provision of element's function wasteful;"[201] and failure to evaluate the commercial availability of the elements from competitive providers.[202] It is implausible to assume that the same Congress that meticulously crafted carrier unbundling obligations under Title II silently granted the Commission the authority in the same legislation to exercise a new and unlimited unbundling mandate over multichannel video programming services, equipment, and networks that would suffer from the same defects as the carrier unbundling rules struck down by the courts.[203]

Mandating disaggregation of MVPD services also would unlawfully interfere with the content of cable services and subject cable operators to common carrier regulation. Congress carefully outlined the extent of regulation of cable services, facilities and equipment in Section 624 of the Act.[204] It specifically barred "Any Federal agency, State or franchising authority" from imposing "requirements regarding the provision or content of cable services, except as expressly provided in this title."[205] As demonstrated above, in adopting Section 629, Congress did not expressly authorize the Commission to do what it proposes in the *Navigation Device*

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[200] *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 389 (1999).

[201] *U.S. Telecom Ass'n v. FCC*, 290 F.3d 415, 427 (D.C. Cir. 2002).

[202] *U.S. Telecom Ass'n v. FCC*, 359 F.3d 554, 574, 593 (D.C. Cir. 2004).

[203] As the D.C. Circuit reminded the Commission when it attempted to exert "sweeping authority" over video programming receiver devices by adopting "strained and implausible interpretations of the definitional provisions," "Congress —does not … hide elephants in mouseholes." *See Am. Libr. Ass'n v. FCC*, 406 F.3d 689, 704 (D.C. Cir. 2005), *quoting Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 468 (2001).

[204] 47 U.S.C. § 544.

[205] *Id*. § 544(f)(1).

NPRM, namely, to require the unbundling of cable service into the three information flows, stripped of the cable operator's own user interface, so that a third party device or application could reassemble those flows into their own video offering.

Further, the Commission is statutorily prohibited under Section 621(c) from subjecting cable systems "to regulation as a common carrier or utility by reason of providing any cable service."[206] That is, the Commission cannot require cable operators to unbundle (provide "open access" to) their networks or services. The proposed Navigation Device rules contemplated by the *Navigation Device NPRM* would run afoul of Section 621(c) by constituting "per se" common carriage under the tests recently established by the D.C. Circuit in the *Verizon* and *Cellco* cases.[207] That is, they would impermissibly force cable MVPDs "to offer service indiscriminately and on general terms," prohibit them from setting the terms and conditions for MVPD content presented on third party devices, require the provision of the three information flows for zero price in addition to the services they voluntarily choose to provide and offer, and leave no "room for individualized bargaining and discrimination in terms."[208]

4. No other provision of the Act confers authority to adopt the proposal.

The *Navigation Device NPRM* gamely asks whether there are other sources of Commission authority to adopt the proposed rules, giving as examples, Sections 624A and 335 of the Act.[209] The short answer is "no" in both cases.

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[206] *Id*. § 541(c).

[207] *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014) ("Verizon"); *Cellco P'ship v. FCC*, 700 F.3d 534 (D.C. Cir. 2012) ("Cellco").

[208] *Verizon*, 740 F.3d at 649; *Cellco*, 700 F.3d at 547-48.

[209] 47 U.S.C. § 544a, 47 U.S.C. § 335(a) (authorizing the Commission to "impose on providers of direct broadcast satellite service, public interest or other requirements for providing video programming);

Section 624A, added as part of the Cable Television Consumer Protection and Competition Act of 1992, grants the Commission authority to investigate and adopt regulations to "restrict cable systems in the manner in which they encrypt or scramble signals" to "assure compatibility between televisions and video cassette recorders and cable systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefit of both the programming available on cable systems and the functions available on their televisions and video recorders."[210]

The obligations contemplated by the rules proposed in this proceeding greatly exceed the modest grant of authority contemplated by Section 624A concerning consumer premises equipment compatibility and cable systems in several respects. As an initial matter, the reach of Section 624A is expressly limited by its plain language to cable systems, not MVPDs generally, as the *Navigation Device NPRM* recognizes.[211] Nor can the Commission regulate software under Section 624A. That provision is directed to the regulation of physical devices: "television receiver[s]," video cassette recorder[s]," "converter box[es]," "remote control devices," and "remote control unit[s]."[212] The Commission's mandate to "periodically review" and possibly "modify" its regulations is no broader.[213] That directive too concerns physical hardware – "cable

Navigation Device NPRM, ¶ 24. ACA directs its attention in this section to the Commission's lack of authority to adopt the proposed rules under Section 624A, but notes here the obvious implausibility of interpreting a grant of authority to impose public interest requirements on DBS providers as supporting a set of rules requiring them to disaggregate their multichannel video programming services so that third party device makers and applications and services providers can reassemble the constituent parts into their own services. Nothing in the text of Section 335(a) plausibly supports such a result.

[210] 47 U.S.C. § 544a(b)(1).

[211] *Navigation Device NPRM*, ¶ 24 n.77.

[212] 47 U.S.C. § 544a(c).

[213] 47 U.S.C. § 544a(d).

systems, television receivers, video cassette recorders, and similar technology."[214]

Moreover, the language from Section 624A cited in the *Navigation Device NPRM* that authorizes the Commission to modify its compatibility rules to reflect improvements in cable systems and technology does not grant it authority to require MVPDs to comply with the set-top box mandates contemplated by the *Navigation Device NPRM*.[215] The Commission cannot, in the guise of keeping its regulations current, expand the scope of its statutory authority beyond what the language of the statute would support. Section 624A provision specifically prohibits the Commission from adopting regulations that "affect features, functions, protocols, and other product and service options" associated with cable service.[216] Not only does Section 624A fail to provide authority for the proposed rules, it would appear expressly to counsel the Commission to avoid adopting rules that require MVPDs to modify "features, functions, protocols, and other product and service options."[217]

Regarding Section 335, whatever the precise scope of the Commission's authority under that section, it expressly concerns regulation of "direct broadcast satellite" providers only.[218] Section 335 does not extend to cable companies or others and, thus, cannot be relied upon to adopt the *Navigation Device NPRM's* proposals as they would apply to MVPDs generally.

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[214] 47 U.S.C. § 544a(d).

[215] *Navigation Device NPRM*, ¶ 24 n.77, *citing* 47 U.S.C. § 544a(d) (directing the Commission to modify its regulations "to reflect improvements and changes in cable systems, television receivers, video cassette recorders, and similar technology").

[216] 47 U.S.C. § 544a(c)(2)(D).

[217] *See id*. § 544a(c)(1)(A).

[218] *See* 47 U.S.C. § 335(a).

B. The Commission's proposal violates constitutional and statutory non-delegation principles.

The *Navigation Device NPRM*'*s* proposed approach suffers from another fatal defect – it impermissibly delegates to private entities the authority to establish mandatory, enforceable standards that bind regulated companies. Rather than review and adopt through the rulemaking process the standards that MVPDs must employ when providing information flows, the Commission proposes that MVPDs be required to comply with specifications to be set *after* the rules are adopted by Open Standards Bodies – i.e., private groups of interested companies, application developers, and consumer organizations.[219] That proposal violates over a half-century of non-delegation principles. The Commission may use private groups such as Open Standards Bodies to *assist* it in developing technical specifications that the Commission then incorporates into its rules. Indeed, Section 629 directs the Commission to *consult* with private standards setting bodies in implementing its commands.[220] But the Commission may not *delegate* to such private bodies the authority to establish the mandatory, enforceable standards that bind regulated companies. If a standard is to have the force and effect of law – if it is to be binding and enforceable – it first must be duly adopted as a rule by the Commission pursuant to the requirements of the Administrative Procedure Act.[221] A regulatory standard cannot be created and imposed by private actors.

1. The Constitution does not permit the Commission to delegate to private groups the authority to impose enforceable standards

Although the Constitution vests "[a]ll legislative power" in Congress,[222] Congress may

[219] *Navigation Device NPRM*, ¶ 41.

[220] 47 U.S.C. § 549(a).

[221] *See* 5 U.S.C. § 553.

[222] U.S. Const. art. I, § 1.

delegate and leave considerable discretion in implementation to the administrative agencies such as the Commission.[223] But the authority to delegate stops there: having received authority to implement the law, an agency may not in turn sub-delegate its power to non-governmental bodies.[224] "Federal lawmakers" – much less, agencies – "cannot delegate regulatory authority to a private entity."[225]

Thus, eighty years ago, the Supreme Court struck down as unconstitutional a *statute* that purported to delegate, to private industry groups, the authority to set minimum wages and maximum hours.[226] Observing that the delegation was not "even to an official or an official body, presumptively disinterested, but to private persons whose interests may be and often are adverse to [others]," the Court held that the statute was "legislative delegation in its most obnoxious form."[227] And, just three years ago, the D.C. Circuit reiterated that, to the extent a statute purports to delegate lawmaking authority on private actors, it runs afoul of the non-delegation doctrine.[228]

The prohibition on delegation of lawmaking authority to persons outside the federal

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[223] *Whitman v. Am. Trucking Ass'n*, 531 U.S. 457, 472 (2001) (requiring only that Congress legislate an "intelligible principle").

[224] *See Free Enterprise Fund v. Pub. Co. Accounting Oversight Bd.*, 561 U.S. 477, 493, 496-97 (2010).

[225] *Ass'n of Am. R.R. v. U.S. Dep't of Trans.*, 721 F.3d 666, 670 (D.C. Cir. 2013), rev'd on other grounds 135 S. Ct. 1225 (2015); *see also Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC*, 737 F.2d 1095, 1143-44 & n.41 (D.C. Cir. 1984) (per curiam) ("NARUC") (noting that Commission cannot "cede to private parties such as the exchange carriers" the right to decide disputes over access charges levied on private exchanges "or even the opportunity to narrow the margins of the debate over access charges for private systems").

[226] *Carter v. Carter Coal Co.*, 298 U.S. 238, 310-11 (1936).

[227] *Id.*

[228] *Ass'n of Am. R.R.*, 721 F.3d at 670; *see also Dep't of Trans. v. Ass'n of Am. R.R.*, 135 S. Ct. 1225, 1237-38 (2015) (Alito, J., concurring) ("Even the United States accepts that Congress 'cannot delegate regulatory authority to a private entity.'").

government reflects structural and democratic concerns. A private group with effective delegated rulemaking authority could make decisions contrary to agency policy without prior approval of the agency.[229] "[A] transfer of authority from Congress to an agency, and then from the agency to private individuals," thus removes political accountability and democratic checks on decision-making.[230] For that reason, the Constitution precludes agency attempts to delegate the *final authority to adopt regulations* to people, companies, or groups outside of the federal government.[231]

That principle precludes the Commission's proposed approach. If adopted and upon going into effect, the Commission's proposed rules require MVPDs to "make available" three information flows that "conform to specifications set by Open Standards Bodies."[232] There can be little doubt that, under the proposed rule, the specifications created by the Open Standards Bodies, once promulgated by those bodies, would have the force and effect of law: Compliance with the extra-governmental decisions would be mandatory, and deviation punishable by the Commission itself with both monetary forfeitures, potential equipment seizures, and even possible criminal sanctions. Although the Commission leaves MVPDs the "flexibility" to select among competing standards created by the Open Standards Bodies for providing the three required information flows, once a standard is selected, the MVPD would be bound to comply

[229] *U.S. Telecom Ass'n v. FCC*, 359 F.3d 554, 565 (D.C. Cir. 2004) (holding the FCC cannot subdelegate decisionmaking authority, such as impairment determinations, to outside entities like state regulatory agencies because there was no "affirmative evidence" in the statute of the FCC's "authority to do so").

[230] *NARUC*, 737 F.2d at 1143 n.41.

[231] *See Carter Coal*, 298 U.S. at 310-11.

[232] *Navigation Device NPRM*, ¶¶ 35-41; Appendix A (proposed rule §76.1211(a)).

with its specifications.[233] The specifications developed by non-governmental Open Standards Bodies would improperly "lend definite regulatory force to an otherwise broad statutory mandate."[234] Decisions made by non-federal, non-governmental bodies would "channel" how the Commission enforces its proposed regulations,[235] and they thus would constitute enforceable "legal rules."[236]

The open-ended nature of the proposed delegation makes the Commission's proposal particularly problematic. The proposed regulations do not empower a single Open Standards Body to develop enforceable standards. The Commission instead envisions that different groups, which are not identified or even limited in any manner, will form independent standards-setting bodies.[237] But that diffusion of authority exacerbates the absence of political accountability. It increases the likelihood of inconsistent standards and, indeed, of standards that depart from Commission and congressional policy. Elsewhere, the Commission recognizes the necessity of considering a broad range of interests in developing rules.[238] For that reason, it requires Open Standards Bodies to have a "fair balance of interested members."[239] But neither these "requirements" nor any other Commission proposed directives would ensure that the Open Standards Bodies will adopt standards that actually protect members' diverse

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[233] *Navigation Device NPRM*, ¶ 35 (the Commission's proposal "would provide each MVPD the flexibility to choose the standard that best aligns with its system architecture").

[234] *Ass'n of Am. R.R.*, 721 F.3d at 672.

[235] *Id.*

[236] *Id.*; *see also NARUC*, 737 F.2d at 1143 (The Commission "cannot, of course, cede to private parties" the power "*to narrow the margins of the debate* regarding access charges" (emphasis added)).

[237] *See Navigation Device NPRM*, ¶ 41.

[238] *See, e.g.*, *id.*, ¶ 13 (consumers); *id.* ¶ 41 (navigation device manufacturers); *id.* ¶ 42 (innovators); *id.* ¶ 44 (MVPDs); *id.* ¶ 99 (small businesses).

[239] *Id.*, ¶ 41; Appendix A (proposed rule §76.1200(h)(i)).

interests. Any political accountability for private bodies' failure to do so is entirely absent.

The Commission, of course, is an accountable part of the United States government. It was to the Commission that Congress delegated rulemaking authority in this context. But nothing in the proposed rules requires the Commission to review and approve the Open Standards Body specifications before they become effective. Instead, the Commission appears to contemplate that whatever is adopted by the Open Standards Bodies – private groups of interested companies, content distributors, and consumer advocates – will be final and enforceable once the standards bodies make their decisions.[240] That delegation of rulemaking authority to non-governmental bodies cannot be reconciled with non-delegation law. If Congress itself cannot delegate lawmaking authority to private bodies,[241] the Commission cannot either.

Perhaps recognizing those concerns, the Commission requires Open Standards Bodies to have a "published appeals process."[242] But that does not cure the problem. The appeals process, rather, replications the problem. It is the Open Standards Bodies themselves that determine who hears the appeals and what the procedures are, including the time frame for decision (if any). An Open Standards Body could select an arbitrator (or other private person) to decide appeals. The very *possibility* that a private person could decide regulatory matters creates a delegation problem.[243] Moreover, any appeals could take many months or years to be resolved (if ever), all taking place while the standards are in effect.

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[240] *See id.*, Appendix A (proposed rules §§76.1200(h)(i) and 76.1211(a)).

[241] *See Carter Coal*, 298 U.S. at 310-11; *Ass'n of Am. R.R.*, 721 F.3d at 670.

[242] *See Navigation Device NPRM*, App'x A (proposed rules §§76.1200(h)(i)).

[243] *See Ass'n of Am. R.R.*, 135 S. Ct. at 1238 (Alito, J., concurring); *Ass'n of Am. R.R.*, 721 F.3d at 670-74; *NARUC*, 737 F.2d at 1143-44.

Nor does the Commission's authority to subsequently adopt new rules overriding Open Standards Body specifications rescue the proposed regulations. Until the Commission acts, the specifications would be final, in effect, and enforceable. MVPDs would be subject to legislative decrees, effectively imposed by private bodies, for some period of time. Even such a temporary delegation would be unconstitutional.[244] Moreover, temporary delegations would be especially burdensome here: Companies cannot be expected to redesign their systems and equipment to meet standards set by a private body and then, when those standards are overturned upon subsequent (and belated) agency review, redesign systems to meet a still-different set of standards.

That does not mean the Commission cannot make use of Open Standards Bodies when creating enforceable information standards. To the contrary, as explained below, the Commission may use such bodies in an advisory capacity, subjecting any specifications they propose to review and approval through the notice-and-comment process as a precondition to effectiveness. But it must be the Commission that adopts such specifications, through adequate administrative law procedures, to give them legal effect. The Commission should not and cannot empower such bodies to create specifications that become enforceable on their own.

2. The Communications Act precludes delegation of rulemaking authority to Open Standards Bodies.

Even apart from constitutional limits, the Commission cannot exercise authority that Congress has withheld.[245] It is well established that, where Congress vests an agency like the Commission with authority, "subdelegations to outside parties are . . . improper absent an

[244] *See NARUC*, 737 F.2d at 1143-44.

[245] *See Halverson v. Slater*, 129 F.3d 180, 185 (D.C. Cir. 1997).

affirmative showing of congressional authorization."[246] Here, no such statutory authority exists.

The Commission proposes to delegate authority to Open Standards Bodies under Section §629.[247] As the *Navigation Device NPRM* recognizes, that provision authorizes the Commission to "consult[] with" industry organizations about new rules.[248] "Consult" means to "'seek information or advice.'"[249] A mandate to consult does not empower the Commission to delegate – that is, to transfer – rulemaking authority. Instead, Section 629 vests the power to adopt regulations in "[t]he Commission,"[250] gives the Commission the power to waive them,[251] and always refers to regulations as something adopted or authorized by the Commission.[252] Nothing in Section 629 authorizes outside groups to write enforceable standards.

In that respect, Section 629 stands in stark contrast to federal statutes that expressly authorize privately initiated rulemaking and adjudications. When Congress wants private parties to assist agencies by creating requirements or conducting adjudications, it provides specific and

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[246] *U.S. Telecom Ass'n*, 359 F.3d at 565 (emphasis added).

[247] *Navigation Device NPRM*, ¶¶ 21-23.

[248] *Id.*, ¶ 42; 47 U.S.C. §549(a). The NPRM asks whether requiring MVPDs to comply with standards established by open standards bodies fulfills the statute's directive that the Commission "adopt regulations" to assure the commercial availability of navigation devices "*in consultation with* appropriate industry standard-setting organizations." *Navigation Device NPRM*, ¶ 42 (quoting 47 U.S.C. §549(a)) (emphasis added). The answer is no. The Commission may adopt standards set by such organizations, but only after consulting with standards-setting organizations and, as explained below, initiating a notice - and -comment rulemaking. *See Cal. Wilderness Coalition v. U.S. Dep't of Energy*, 631 F.3d 1072, 1087 (9th Cir. 2011) (interpreting 16 U.S.C. §824p). It may not adopt rules authorizing Open Standards Bodies, delegate rulemaking authority to them, and deem the "consultation" requirement satisfied. That requirement instead mandates that the Commission—not open standards bodies—actively confer with standards-setting organizations about any binding standards before their adoption. *See id*. ("the ordinary meaning of consult involves conferring with an entity before taking action").

[249] *Cal. Wilderness Coalition v. U.S. Dep't of Energy*, 631 F.3d 1072, 1087 (9th Cir. 2011).

[250] 47 U.S.C. § 549(a).

[251] *Id*. § 549(b).

[252] *Id*. § 549.

unambiguous authorization. For example, in the securities context, "self-regulatory organizations," such as stock exchanges, have long exercised some degree of governmental authority. But the federal securities laws expressly provide for such organizations and delineate their relationship to the regulator (the Securities and Exchange Commission or "SEC").[253] Thus, self-regulatory organizations may adopt rules, but the rules lack effect until the SEC takes affirmative steps to approve them.[254] Likewise, self-regulatory organizations are given statutory authority to discipline their members, but subject to SEC review.[255]

The Sarbanes-Oxley Act of 2002 takes a similar approach to the statutorily private Public Company Accounting Oversight Board ("PCAOB"), which oversees audits and auditing firms. Typically, "[n]o" PCAOB rule is "effective without prior approval of the" SEC,[256] and PCAOB adjudications are reviewable by the SEC.[257] Likewise, the Bituminous Coal Conversation Act of 1937 authorized groups of coal producers to propose coal prices that were then subject to review by the National Bituminous Coal Commission (a governmental entity).[258]

Section 629 provides no comparable authority. In the securities context, the Exchange Act explicitly contemplates that private bodies will conduct initial adjudications that can be binding absent appeal to the SEC. Here, by contrast, the Communications Act does not generally empower private bodies to impose binding obligations on an industry. Where

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[253] *See* 15 U.S.C. § 78s; *Nat'l Ass'n of Securities Dealers, Inc. v. SEC*, 431 F.3d 803, 806-08 (D.C. Cir. 2005) (detailing the operation of self-regulatory organizations under SEC oversight).

[254] *See id.* § 78s(b)(1).

[255] *See id.* § 78s(d)-(e).

[256] 15 U.S.C. § 7217(b)(2).

[257] *Id.* § 7217(c)(2).

[258] *See Sunshine Anthracite Coal Co. v. Adkins*, 310 U.S. 381, 387-88 (1940).

Congress intends private standard-setting body specifications to be adopted, it says so specifically, as Congress did in connection with standards for regulating the loudness of commercial advertisements in video programming.[259] Because Congress did not, any effort by the Commission to imbue non-governmental organizations with the power to create even temporarily binding obligations would represent "an unlawful subdelegation of the Commission's [Section 629] responsibilities."[260]

Nor does Section 624A or Section 335 countenance such a subdelegation. Neither provision, assuming they otherwise conferred authority on the Commission to pursue its proposal (which neither provision does) affirmatively authorizes outside groups to propose – much less, to make – regulations.[261] Instead, much like Section 629, Section 624A directs the Commission to "consult[] with" industry representatives about issues concerning compatibility of VCRs and cable systems, and then says "*the Commission* shall issue such regulations as are necessary."[262] "Consult with" does not mean "delegate to." And Section 335, which concerns programming content delivered by direct broadcast satellite providers, does not even require consultation.[263] In short, the *Navigation Device NPRM* fails to identify anything in the Communications Act that permits the Commission to subdelegate its regulatory authority to private groups, such as Open Standards Bodies.

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[259] *See* Pub. L. 111-311 (2010) (the Commercial Advertisement Loudness Mitigation Act).

[260] *U.S. Telecom Ass'n*, 359 F.3d at 565.

[261] *See* 47 U.S.C. §§ 335, 544a.

[262] 47 U.S.C. § 544a(b)(1) (emphasis added); *see also id.* § 544a(c)-(d) (directing the Commission to make and modify regulations).

[263] 47 U.S.C. § 335.

3. At most Open Standards Bodies should propose standards for the Commission's consideration under notice-and-comment procedures.

None of the principles discussed above which the proposal contravenes preclude the Commission from seeking industry input. It is entirely appropriate for the agency, as it has done many times in the past, to get "advice and policy recommendations" from private groups, "provided the agency makes the final decision itself."[264] An agency, for example, may ask private bodies to propose regulations for its consideration and subject to notice and an opportunity by all interested parties to comment.[265] Consequently, the Commission can avoid non-delegations problems by using Open Standards Bodies in an advisory capacity only. Ideally, an Open Standards Body should propose specifications; the Commission should thereafter provide notice and seek comments; and the Commission should decide whether to adopt, amend, or reject the proposed specifications before they become binding upon industry participants.

That process is widely used. For example, in the securities context, self-regulatory organizations cannot adopt legally enforceable standards on their own. Rather, when a stock exchange (or other self-regulatory organization) wishes to adopt certain rules, it must submit them to the SEC for approval.[266] The SEC gives "interested persons an opportunity to submit written data, views, and arguments"; and only then decides whether to adopt, amend, or reject the proposed rule.[267] Nearly the same procedures apply to rules drafted by the PCAOB, a statutorily private entity modeled on self-regulatory organizations. Typically, the PCAOB

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[264] *U.S. Telecom Ass'n*, 359 F.3d at 568.

[265] *See Sunshine Anthracite Coal*, 310 U.S. 381.

[266] *See* 15 U.S.C. § 78s(b)(1).

[267] *See id*.

proposes a rule to the SEC; the SEC notices the rule for public comment; and the SEC then decides whether to accept, reject, or modify the rule.[268]

This Commission itself has followed similar procedures. For example, when the Commission developed rules for private communications systems in the 1980s, it permitted carriers to propose surcharges. But any surcharges would not "go into effect unless and until the Commission approve[d] them."[269] Similarly, in 1996, the Commission convened a private advisory committee to develop standards for the transmission of digital television.[270] Importantly, however, those proposed standards did not become effective until approval by the Commission following a notice and opportunity for public comment.[271] Similar procedures should govern here. The Commission cannot and should not adopt any proposal under which Open Standards Body specifications can become a binding rule by default. The Communications Act delegates regulatory authority to the Commission and the Commission

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[268] *See* 15 U.S.C. §§ 7217(b), 78s(b)(1).

[269] *NARUC*, 737 F.2d at 1144.

[270] *See Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service*, Fourth Report and Order, 11 FCC Rcd 17771 (1996).

[271] The Commission will be following a similar process in the case of ATSC 3.0, an Internet protocol-based digital broadcasting standard developed by a private standards setting body in conjunction with the broadcast and consumer electronics industries. *See* Deborah D. McAdams, TV Technology, "NAB 2016: Wheeler Said ATSC 3.0 Will Circulate This Month," *available at* http://www.tvtechnology.com/news/0009/nab-2016-wheeler-said-atsc-30-will-circulate-this-month/278523.ATSC 3.0 was developed by private parties in conjunction with the ATSC, "an international, non-profit organization developing voluntary standards for digital television," but they have petitioned the Commission to authorize its use on a voluntary basis to comply with their obligation to broadcast according to the digital broadcasting standard. *See* Joint Petition for Rulemaking of America's Public Television Stations, the AWARN Alliance, the Consumer Technology Association, and the National Association of Broadcasters at 1 n.1 (filed Apr. 13, 2016) ("Joint Petition"), *available at* http://nab.org/documents/filings/NextGenTVPetforRulemaking041316nm.pdf. The Joint Petition notes that in adopting the current digital television standard, the Commission "considered the trade-offs between an open market, a voluntary standard, and a mandatory standard," ultimately adopting a rule for digital television containing both mandatory and optional elements. *Id*. at 12. The Joint Petition provides the Commission with suggested amendments to its rules to incorporate the ATSC 3.0 standard. *See* Attachment C.

alone; it is the Commission that must exercise ultimate authority to adopt any standard that will have the force and effect of law.

V. THE COMMISSION SHOULD NOT APPLY ANY REGULATIONS BASED ON ITS PROPOSAL TO SMALLER MVPDS

To the extent that the Commission concludes that it has an adequate legal and policy basis and moves ahead with its proposal, it should not apply its rules to operators of small multichannel video programming systems. ACA is pleased that in the *Navigation Device NPRM*, the Commission is cognizant that its proposals may disproportionately burden smaller providers and asks whether it should impose different rules or implementation deadlines for small MVPDs.[272] In particular, the *Navigation Device NPRM* seeks comment on whether the Commission "should exempt MVPDs serving one million or fewer subscribers" from any rules adopted in this proceeding and whether there is a "size-neutral" way to ensure that the "rules are not overly burdensome to MVPDs."[273] The *Navigation Device NPRM* tentatively concludes that "all analog cable systems should be exempt from the rules we propose today, just as they were exempt from the original separation of security rules."[274] If the Commission finds its authority under Section 629 sufficient to adopt the proposed rules, and that it must do so to meet that provision's policy objectives, it should cabin those rules to prevent imposing grave

[272] *Navigation Device NPRM*, ¶ 81.

[273] *Id.*, ¶ 81. Section 629 requires the Commission to assure the competitive availability of navigation devices used to access multichannel video programming and other services offered over multichannel video programming systems. The statute does not define, "multichannel video programming system," but in implementing its commands, the Commission adopted the following definition: "Multichannel video programming system. A distribution system that makes available for purchase, by customers or subscribers, multiple channels of video programming other than an open video system as defined by §76.1500(a). Such systems include, but are not limited to, cable television systems, BRS/EBS systems, direct broadcast satellite systems, other systems for providing direct-to-home multichannel video programming via satellite, and satellite master antenna systems." 47 C.F.R. § 76.1200(a). ACA proposes that the Commission incorporate this definition into any exemptions it adopts.

[274] *Navigation Device NPRM*, ¶ 81.

hardships on smaller providers. In the interests of sound public policy, ACA urges the Commission to refrain from applying any rules it adopts in this proceeding to smaller MVPDs to the maximum extent supported by the record in this proceeding.

As explained below, ACA requests, consistent with its analysis of the compliance costs associated with the proposed rules, that any rules adopted not be applied to small multichannel video programming systems (including cable and IPTV systems) defined as those serving 600,000 or fewer subscribers that are not affiliated (i) with an MVPD serving more than one percent of all MVPD subscribers, (ii) or with an MVPD or any company with an attributable interest in the MVPD of 50 percent or more that does not have a market capitalization of greater than $100 billion (together, "qualifying multichannel video programming systems"). Although this exclusion would likely capture all analog-only systems providing service today, ACA supports an additional explicit exclusion of such systems from the scope of the rules adopted to avoid any doubt.

A. There is no policy rationale for application of the proposed rules to smaller MVPDs.

The combined subscriber bases of the larger MVPDs offer sufficient critical mass to achieve the commercial development and mass adoption of devices conforming to the Commission's proposed rules, thus assuring an adequate addressable commercial market for such devices to have the opportunity to evolve for the industry as a whole.[275] Larger MVPDs serve over 93 percent of all MVPD subscribers, covering urban communities, rural areas and diverse demographics.[276] Conversely, operators of qualifying multichannel video programming

[275] *See* Alwin Mahler and Everett M. Rogers, "The diffusion of interactive communication innovations and the critical mass: the adoption of telecommunications services by German banks," *Telecommunications Policy Vol. 23* (1999) ("The critical mass point in the diffusion process is generally expected to occur approximately between 10 and 20% adoption.").

[276] SNL Kagan, "Multichannel Top Cable MSOs Data," (Dec. 2015).

systems under ACA's proposal serve under seven percent of MVPD subscribers. Nearly all of subscribers of qualifying multichannel video programming systems have access to pay-TV service from at least two other large MVPDs (i.e., AT&T/DirecTV and DISH). Therefore, should the Commission exclude from the coverage of its rules operators of qualifying multichannel video programming systems, the vast majority of subscribers served by smaller MVPDs today would still have substantial options for using third party devices, creating a more than sufficiently large environment in which such devices will have the opportunity to develop.

Historically, larger MVPDs have been the entry point for development and deployment of new navigation devices. They not only offer sufficient scale for mass adoption, they also comprise the segment of the industry best equipped to facilitate the entry of third party navigation device manufacturers.[277] In fact, larger MVPDs have traditionally introduced new standards into the marketplace.[278] Subscribers of qualifying multichannel video programming systems would not be materially disadvantaged, if at all, if the regulations did not apply to their providers, as smaller MVPDs are already integrating their MVPD offerings with applications on third party devices like TiVo and Roku. If any devices stimulated by the Commission's proposal prove popular among subscribers of larger MVPDs, operators of qualifying video programming systems likely will adopt the same technologies after larger MVPDs when these technologies

[277] For example, PlayStation Vue virtual pay-TV service launched March 2015, but was only available in major metropolitan areas like New York, Los Angeles, and Chicago. Sony did not expand access to the service until March 2016. *See* Jack Grant, "Sony's 'PlayStation Vue' Begins Nationwide Rollout," Yahoo! (Mar. 15, 2016), *available at* http://finance.yahoo.com/news/sonys-playstation-vue-begins-nationwide-125200585.html.

[278] Comcast was the first MVPD to pursue the technical challenge of delivery 4K/UHD content over both IP and QAM, partnering with technology vendors for a 4K demo at The Cable Show in 2013. The demo showed that Comcast was "capable of doing this [4K video]" prior to the development of a 4K/UHD video market. Comcast has the resources to develop a 4K/UHD delivery solution through Comcast Labs. *See* Jeff Baumgartner, "Cable Show 2013: Comcast: We'll Be Ready for Ultra HD," Multchannel News (June 12, 2013), *available at* http://www.multichannel.com/news/distribution/cable-show-2013-comcast-well-be-ready-ultra-hd/261713, http://www.fiercecable.com/story/comcast-lights-path-4k-ultra-tv-demo-elemental-arris-broadcom/2013-06-11-0.

become generally available in the marketplace and costs have declined. Smaller cable operators' track record of deploying innovative devices and other methods for customers to access their services over these devices, as well as facilitating access to over-the-top services is evidence of their willingness to respond to competitive pressures by voluntarily adopting standards such as those contemplated by the proposed rules.

B. The Commission's proposed rules would unduly burden smaller MVPDs.

The Commission's proposed rules would be burdensome for all MVPDs, but most especially for those operating qualifying multichannel video programming systems. In devising new rules to implement Section 629, the Commission must keep in mind the requirements of the Satellite Television Extension and Localism Act Reauthorization Act of 2014 ("STELAR"). STELAR directed the Commission to establish DSTAC with the specific command that the group "recommend performance objectives, technical capabilities, and technical standards of a *not unduly burdensome*, uniform and technology- and platform-neutral software-based downloadable security system designed to promote the competitive availability of navigation devices in furtherance of section 629 . . ."[279] Ensuring regulation is "not unduly burdensome" is a critical part of Congress' charge to the Commission in this area. It is undeniable that the burdens associated with the proposal will be particularly difficult for smaller MVPDs to bear. They have fewer resources to devote to the costly technical changes that would be required and, with a smaller customer base, a lesser opportunity to recover those costs (especially given competitive forces). Thus, tailoring the rules to alleviate undue burdens would further Congress' objectives in both Section 629 and STELAR.

History has proven that regulatory burdens associated with technical mandates impose additional costs on small MVPDs that they are ill-equipped to bear. As discussed in Section I

[279] Pub. L. No. 113-200, § 106, 128 Stat. 2059, 2063-4 (2014) (emphasis added).

and in more detail below, in 1998, the Commission adopted the now-repealed set-top box integration ban without providing an exemption for small cable operators.[280] Shortly thereafter, it exempted operators using devices employing analog-only conditional-access mechanisms.[281] Over the next fifteen years, the Commission granted additional relief from the integration ban to well over 170 companies, mostly smaller MVPDs or MVPDs operating smaller systems, and granted 11 equipment vendors waivers either from the integration ban or related rules.

The Commission should learn from its past mistakes in implementing Section 629 and proactively grant relief for smaller providers. To the extent they are knowable, as described above in Section III, in even the best case scenario, the proposed rules will prove burdensome for all MVPDs. But the burdens will be exacerbated for smaller MVPDs who face greater technical and economic hurdles than their larger counterparts, as many of the costs of compliance would not scale down with size. The costs would be so onerous that many smaller operators would likely need to consider shutting down their MVPD services, thus harming their customers and the communities they serve.

By providing ACA's requested relief, the Commission would afford smaller operators the opportunity to evaluate the experience of larger providers and observe consumer demand for retail navigation devices, as well as to consider any reductions in the cost of implementation (*e.g.*, for gateway devices) over time, so that they could appropriately determine whether to adhere to the Commission's proposed standards on a voluntary basis. Moreover, smaller MVPDs typically make very little profit on their set-top box rentals and many actually take losses on the provisioning of set-top boxes. As a result, many smaller operators would prefer to exit

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[280] *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Report and Order, 13 FCC Rcd 14775 (1998) ("First Plug and Play Order").

[281] *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Order on Reconsideration, 14 FCC Rcd 7596, ¶¶ 7-22 (1999) ("First Plug & Play Reconsideration Order").

the set-top box rental business (to the extent it can be considered a "business"), which demonstrates that the needs and goals of smaller operators align with those of the Commission. Accordingly, the Commission should exclude from the reach of any rules it adopts any operator of a qualifying multichannel video programming system.

C. The Commission should not apply its proposed rules to multichannel video programming systems with fewer than 600,000 subscribers and not affiliated with a larger MVPD or entity.

To avoid placing undue burdens on smaller MVPDs, ACA proposes that the Commission refrain from imposing its proposed rules on operators of qualifying multichannel video programming systems. As discussed above, for this purpose, the Commission should define "small multichannel video programming systems" as those serving 600,000 or fewer subscribers that are not affiliated (i) with an MVPD serving more than one percent of all MVPD subscribers, (ii) or with an MVPD or any entity with an attributable interest in the MVPD of 50 percent or more that has a market capitalization of greater than $100 billion.

ACA bases its request on its cost analysis, presented in Section III, *supra*., of the elements of the Commission's proposal that could be identified and priced. ACA's cost analysis, which conservatively projects the known and quantifiable cost burdens associated with a system of different sizes, validates that operators of systems with 600,000 subscribers and not affiliated with a larger MVPD or entity, would be financially burdened by the Commission's requirements. The variable implementation costs driven by the Commission's proposed requirements would be cost-prohibitive if just 20 percent of subscribers deployed a third party device. For these subscribers, each MVPD would be required to design system-specific gateway devices, which would be purchased in relatively small quantities for smaller systems and for which it would pay far more than the steeply discounted price that may be negotiated by larger MVPDs and for larger systems. Further, as the number of subscribers served by a

system decreases, the financial burden on these systems increases, as the fixed costs driven by the Commission's proposed requirements become a significant factor.

In addition, the Commission should not apply its proposed rules to the qualifying systems of MVPDs in whom no entity with a market capitalization of greater than $100 billion has an attributable interest of 50 percent or more. For such systems, due to the limited ability of these MVPDs to raise the necessary capital, the fixed and variable costs (*e.g.*, testing and integration, gateway devices) would be financially difficult to overcome, especially given the limited resources they have available.

1. ACA's approach is modeled on that used by Congress and the Commission in the past to afford smaller cable operators relief from undue regulatory mandates in recognition of their limited resources.

To develop its approach to small provider relief, ACA looked to the approach used by Congress and the Commission in granting relief from rate regulation for small cable operators in Section 623(m)(1) of the Act.[282] Section 623 defines "small cable operator" for this purpose as "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[283] The Commission's proposal would be particularly oppressive for MVPDs of this size, with the limited resources they have available. This relief reflects Congress' understanding that the limited financial resources available to smaller entities not affiliated with larger companies make some forms of regulation particularly burdensome.

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[282] 47 U.S.C. § 543(m)(1).

[283] *Id*. § 543(m)(2). *See also* 47 C.F.R. § 76.901(f) ("A small cable operator is an operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000.").

In this case, relief for operators of multichannel video programming distribution systems with 600,000 or fewer subscribers and not affiliated with a larger MVPD or entity is consistent with Commission precedent in providing relief for small and medium-sized providers with respect to other technical mandates when compliance with would be unduly onerous or when such an exemption does not contravene the public interest.

2. ACA's proposed approach is consistent with Commission precedent under Section 629.

By its terms, Section 629 applies to all MVPDs. The Commission, however, has recognized that its implementing regulations need not apply universally to all MVPDs to achieve statutory goals. In its initial orders implementing the integration ban (the "Plug & Play Orders"), the Commission declined to apply the ban to direct broadcast satellite ("DBS") providers.[284] The Commission's reasoning for the carve-out for DBS is instructive and bears directly on the question of relief for smaller providers from the proposed rules:

> There is no basis in the law, or the record of this proceeding, to support a conclusion that the statutory language does not include all multichannel video programming systems. Our reading of the law is that consumer choice in navigation devices for all multichannel video programming systems was mandated by Congress when it enacted Section 629. Our decision and rules, however, recognize the differences between various providers and, as discussed below, the rules are intended to recognize the fact that DBS reception equipment is already nationally portable and commercially available.[285]

The Commission found marketplace mechanisms sufficient to ensure the commercial availability of navigation devices. It was "reluctant to implement a rule that could disrupt an

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[284] *First Plug and Play Order*; *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, Second Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 20885 (2003) ("Second Plug and Play Order").

[285] *See First Plug and Play Order*, ¶ 22.

evolving market that is already offering consumers the benefits that derive from competition."[286] Moreover, the Commission found that "[t]otal DBS subscribership constitute[d] only 8% of the MVPD market, as compared to 87% of the MVPD market for cable."[287] The regulation adopted effectuated this conclusion by specifying that the prohibition on placing into service navigation devices containing conditional access and other functions in a single integrated device "shall not apply" with respect to MVPDs that support subscriber use of navigation devices purchased at retail from vendors unaffiliated with the MVPD.[288]

One year later, the Commission employed similar reasoning when it exempted operators using devices employing only an analog conditional access mechanism. It found that only the retail development of hybrid analog-digital and digital navigation devices would hasten the roll-out of digital services by MVPDs and bring consumers the associated technological advances.[289] Section 76.1204 of the Commission's rules was subsequently amended to add subsection (f), which provided that the integration ban "*shall not apply* to the provision of any navigation device" employing conditional access only to access analog video programming capable of accessing only analog video offered over a multichannel video distribution system

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[286] *Id.*, ¶ 64. Specifically, the Commission found that DBS equipment was already available at retail and portable nationwide.

[287] *Id.*, ¶ 65.

[288] 47 C.F.R. § 76.1204(a)(2)(ii)(A) & (B).

[289] *First Plug & Play Reconsideration Order*, ¶ 13. The Commission found application to analog devices unnecessary for several legal and practical reasons: (i) the "confluence" of industry participants necessary to create competitive navigation devices was unlikely to take place in the analog environment and forcing it to do so would "have an adverse impact with respect to digital equipment;" (ii) manufacturers were unlikely to produce non-integrated analog equipment due to low demand; (iii) the development of an analog security module "is not economically feasible;" (iv) application of the integration ban to analog devices would result in unnecessary expenditures by MVPDs for a module that would soon be obsolete; and (v) that it "would not be advisable for the Commission to apply a rule in a manner which could interfere with the development of competition in the digital marketplace."

that does not provide access to any digital transmissions.[290] At the same time, the Commission reaffirmed its decision not to apply the rules to DBS providers, explicitly rejecting the argument that Section 629(a) requires uniform regulations across all multichannel video service platforms.[291]

3. Other Commission precedent also supports limiting the scope of the proposed rules because compliance would be unduly burdensome for qualifying systems and such relief does not contravene the public interest.

Other Commission precedent supports limiting the scope of any proposed rules to exclude operators of qualifying multichannel video programming systems. When it comes to granting small and medium-sized MVPDs relief from technical mandates, the Commission has no one-size-fits-all approach. Instead, it typically has considered various factors to determine the ideal scope of its regulations, including the actual burden of implementing the mandate, and whether such relief would impede the regulation's public interest goals. In this case, limiting the application of the rules to exclude qualifying multichannel video programming systems is appropriate for two reasons: (i) even medium-sized operators face significant disadvantages of scale compared to larger operators, making it substantially more difficult to implement new technologies; and (ii) the resulting rules will not harm the availability of retail navigation devices due to the seven percent market share of MVPDs with qualifying systems – a smaller share than that of the DBS providers exempted from the integration ban. The scale of compliant equipment purchases that can be expected from such a limited share of the market is too small to drive the actions of consumer equipment manufacturers and therefore impact the availability of devices for available for purchase at retail by consumers. Moreover, if the Commission's

[290] 47 C.F.R. § 76.1204(f) (emphasis added).

[291] *First Plug & Play Reconsideration Order*, ¶ 37 ("The statute mandates the outcome of competitive availability, not uniform means to achieve this result.").

experiment is successful, small and medium-sized MVPDs will have ample incentives to adopt the proposal's requirements on a voluntary basis as rapidly as their economic circumstances allow.

The Commission has provided relief to small and medium-sized operators when it recognizes that they face greater burdens in implementing technical mandates than those faced by larger operators. For example, in its *User Interface Order*, the Commission noted that smaller MVPDs have a difficult time with new technical mandates because "large cable operators [] generally dictate equipment features to manufacturers,"[292] and because "small systems have a smaller customer base across which to spread costs."[293] As a result, the Commission opted to delay the compliance deadline for MVPDs with 400,000 or fewer subscribers and for systems with 20,000 or fewer subscribers not associated with an MVPD serving more than 10 percent of all MVPD subscribers.[294] Similarly, while the Commission did not exempt MVPDs with fewer than 400,000 subscribers from basic commercial loudness mandates adopted pursuant to the CALM Act, it did refrain from requiring them to purchase specific equipment necessary to conduct spot testing unless and until it finds a pattern and practice of complaints concerning commercial loudness.[295]

The Commission has also provided relief to smaller providers when it has recognized that small providers' compliance with technical mandates was not necessary to meet the

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[292] *Accessibility of User Interfaces, and Video Programming Guides and Menus; Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 17330, ¶ 114 (2013) ("User Interface Order").

[293] *Id.* (citations omitted).

[294] *Id.*

[295] *Implementation of the Commercial Advertisement Loudness Mitigation (CALM) Act*, Report and Order, 26 FCC Rcd 17222, ¶ 37 (2011).

Commission's regulatory goals, as would be the case here. For example, in determining how best to ensure the compatibility of third party devices in the *Basic Tier Encryption Report and Order*, the Commission refrained from requiring that smaller MVPDs deliver their programming streams in a way that enabled IP-based third party devices to work. Instead, the Commission accepted a commitment from the six largest NCTA member companies to implement a supplemental solution to provide basic service tier access to third party-provided, IP-enabled devices.[296] In doing so, the Commission rejected arguments that this approach would fail to support the operation of IP-enabled devices. It noted that the six largest operators served 86 percent of all cable subscribers. As a result, a commitment from those six operators would "achieve[] the objectives of 624A of the Act – *i.e.,* to ensure compatibility between cable service and consumer electronics equipment."[297]

The same logic should apply in this proceeding. To the extent that any requirements are necessary "to assure commercial availability" of retail navigation devices – a doubtful proposition – the Commission need not subject small and medium-sized operators and systems to any new rules in order to create a more robust marketplace for retail devices. Rather, the Commission can achieve its objective by limiting its rule to the 93 percent of MVPDs (by subscriber count) with sufficient scope and resources to comply with its requirements without imposing burdens on operators of qualifying multichannel video programming systems that serve the remaining MVPD subscribers. Retail device manufacturers will have more than ample

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[296] *Basic Service Tier Encryption,* Report and Order, 27 FCC Rcd 12786, ¶ 20 (2012). The Commission refrained from granting additional relief from compliance obligations to smaller cable operators on the grounds that the decision to encrypt the basis tier was voluntary, not mandatory, so that an operator wishing to avoid the added costs of the conditions the Commission placed on operators who encrypt could be avoided if the operator determined they outweighed the benefits of encryption. With respect to the Device Proposal, in contrast, the need to re-architect a cable system would be a direct result of a technical mandate rather than an operator's own cost-benefit analysis. The Commission specifically rejected arguments that this approach would not be sufficient to support the operation of IP-enabled devices, noting that the six largest operators served 86 percent of all cable subscribers. *Id*., ¶ 21.

[297] *Id*.

opportunity to market their products to the vast majority of MVPD subscribers, and assuming that there is sufficient demand for such devices, those customers will constitute a sufficiently large market to make production worthwhile.

Further, consumers will not be harmed if operators of qualifying multichannel video programming systems do not have to comply with the new requirements. Competition within the MVPD marketplace is already robust, such that every MVPD subscriber in the nation has the opportunity to use a retail device by subscribing to one of at least two MVPD services that compete with smaller operators (i.e., AT&T/DirecTV and DISH).[298] The 90 percent of television households located in areas served by at least one of the eight largest cable operators would have access to at least three MVPDs that would be subject to the rules. Meanwhile, even subscribers of qualifying multichannel video programming systems will continue to have access to devices that use the CableCARD standard, which the Commission acknowledges "largely appears to align" with the proposed rules.[299]

4. In accordance with its past actions granting relief to smaller MVPDs, the Commission should limit the scope of any rules adopted in this proceeding.

Reasons similar to those the Commission has identified with respect to its integration ban support relief for smaller systems from any rules adopted in this proceeding. First, qualifying multichannel video programming systems provide service to a similarly small percentage of the total MVPD marketplace, roughly seven percent of all MVPD subscribers, that

[298] As the Commission has recognized, nearly 100 percent MVPDs face competition from at least two other MVPDs. *Amendment to the Commission's Rules Concerning Effective Competition*, Report and Order, 30 FCC Rcd 6574, ¶ 4 (2015). To the extent that the Commission does not grant an exemption for only a subset of operators with fewer than 1,000,000 subscribers, it should consider whether these operators should receive a delayed compliance deadline. *See User Interface Order*, ¶ 114. *See also Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, Fourth Report and Order, 23 FCC Rcd 13618 (2008) ("HD Small Cable Exemption Order") (granting initial compliance delays).

[299] *Navigation Device NPRM*, ¶ 81.

the DBS providers served at the time the Commission declined to impose the integration on them. Second, just as with the digital transition, granting this relief will allow operators of qualifying systems to continue their transition to more efficient IP delivery on a timeframe that fits with their consumers' needs as well as their current business model and financial capabilities. Third, limiting the application of the rules will permit these smaller entities to continue to direct their financial resources toward better meeting their customer's needs, upgrading their services, and continuing to deploy and expand their high-performance broadband networks.

While the cable industry has made great strides in only a few years transitioning from analog to digital and now to IP, the same considerations the Commission earlier noted with respect to transitioning to digital delivery are true with respect to transitioning to IP delivery for the vast majority of ACA member companies. The ability of qualifying multichannel video programming systems to transition to IP in a gradual and cost-effective manner suited to their individual economic and market circumstances, unimpeded by externally imposed economically infeasible and unnecessary technical mandates, is critical. Conversely, forced migration to IP delivery on a set and rapid timeframe for the sole purpose of complying with the Commission's mandate to unbundle MVPD services into the three information flows and to provide a compliant security system for use in third party devices will be economically infeasible and counter-productive. For many smaller operators, it would be fatal.[300]

Moreover, as discussed above, if the Commission's experiment is ultimately successful, smaller MVPDs will have significant incentives to allow their customers to purchase and use retail navigation devices to stay competitive. Because competition within the MVPD marketplace is so robust, small and medium-sized MVPDs that do not satisfy consumer demand

[300] *See* Section III, *supra*.

will face the prospect of losing customers at unsustainable rates. Already, small and medium-sized MVPDs are embracing innovation in service provisioning and navigation devices in order to compete with larger providers. As described above, operators of small multichannel video programming systems have proven themselves to be market leaders in providing competitive choices in navigation devices whenever possible. Many customers whose providers might be exempt under ACA's proposal already have access to advanced TiVo set-top boxes that integrate their cable programming with over-the-top content. If the Commission's experiment with new set-top box regulations leads to significant consumer demand for retail devices, small and medium-sized operators will undoubtedly embrace that approach on a voluntary basis in order to attract and retain subscribers.

5. The proposed rules will impede smaller MVPDs' transition to more advanced technologies for the delivery of video programming and broadband Internet access services.

According to the *Navigation Device NPRM*, "the world is converging…around IP to provide control channel data, in some cases also using IP for content delivery over MVPD systems, and in many cases using IP for content delivery throughout the home."[301] The *Navigation Device NPRM* suggests that IP delivery will allow operators to comply with the mandates without undue cost.[302] While in some aspirational sense that may be true, the industry as a whole is years, if not decades, away from a complete transition to IP, and the burdens inherent in the Commission's proposal will only delay that transition further. The *Navigation Device NPRM* acknowledges that the "wide diversity in delivery networks, conditional access systems, bi-directional communications paths, and other technology choices of MVPDs"

[301] *Navigation Device NPRM*, ¶ 11.

[302] *Id.*, ¶ 11.

is “a fundamental feature of the current market for multichannel video programming services.”[303] Smaller MVPDs are just beginning the transition to IP delivery. At present, only a small percentage of smaller cable operators offer any IPTV service.[304] In fact, the vast majority of systems operated by smaller MVPDs are neither IPTV, nor even all-digital, but instead hybrid analog-digital or even just analog-only.[305] Very few MVPDs that have not transitioned to IP delivery of control channel information “provide IP-based applications to their customers or use IP to send content to devices throughout a home network[.]”[306] While the Commission maintains IP delivery of any kind is not necessary to implement its proposal, there can be no doubt that implementation will be significantly more challenging for MVPDs that do not yet have that capability.

Small MVPDs, however, are working hard and investing significant capital to upgrade their networks to improve both multichannel video programming services and broadband Internet access offerings. As described above, small MVPDs are seeking to upgrade their networks in response to consumer demand,[307] either by investing in fiber-to-the-home networks, by upgrading to DOCSIS 3.1, or by expanding capacity through other means. These upgrade are costly, especially for operators of smaller multichannel video programming systems, which

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[303] *Id.*, ¶ 34.

[304] *See* Section III, *supra*.

[305] *See Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission’s Rules*, MB Docket No. 98-120, Comments of the American Cable Association at 17 (filed Apr. 16, 2015) (“In 2013, ACA identified 987 analog-only systems among its membership. Those systems served approximately 203,000 subscribers, accounting for about 0.15 percent of all MVPD subscribers. At that time, only 23 analog-only systems served more than 1,000 subscribers, and a vast majority of the systems averaged fewer than 100 subscribers. The number of analog-only systems (and, by extension, subscribers served by them) has likely decreased since 2013 as some systems shut down and others upgraded to hybrid analog/digital or all-digital.”). These figures suggest that the vast majority of ACA members operate either hybrid analog-digital or hybrid digital-IP systems.

[306] *See Navigation Device NPRM*, ¶ 81.

[307] *See* Section II, *supra*.

face ever-shrinking video margins and often find it difficult to borrow money from traditional financial institutions. Although the *Navigation Device NPRM* claims that the approach it proposes is "the least burdensome" way to assure commercial availability of navigation devices,[308] the proposal's untimely and burdensome regulatory mandates are likely to disrupt these operators' ability to make the transition necessary to provide innovative communications in a cost-effect manner at a pace that balances technological developments, financial circumstances, and customer needs. As described above, even in the best case scenario, the proposed regulations will impose significant burdens on all MVPDs, and on smaller operators in particular.

6. Imposing the new requirements on operators of qualifying multichannel video programming systems will lead to less consumer choice in some cases.

In the *Navigation Device NPRM*, the Commission emphasizes that its proposed rules are intended to promote consumer choice.[309] While ACA believes, and has observed above, that no new rules are necessary to promote choice in a market already teeming with it, the Commission must consider that its new rules may have the unintended consequence of reducing consumer choice in MVPD services, as well as reducing innovative navigation solutions offered by MVPDs.

First, in addition to diverting resources away from necessary network upgrades, compliance with the proposed regulations would impede MVPDs from investing in innovative navigation solutions, such as the TiVo partnership in which many small operators have already invested heavily. Second, and more importantly, if adopted as written, the regulations would

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[308] *See Navigation Device NPRM*, ¶ 81. *See also Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Comments of the American Cable Association, Exhibit B, Connecting Hometown America, How Small Operators of ACA are Having a Big Impact, a paper by American Cable Association, Research and Analysis by Cartesian at 4 (filed July 17, 2014).

[309] *Navigation Device NPRM*, ¶ 13.

threaten the continued operations of many smaller MVPDs. This is not hyperbole. Even before the *Navigation Device NPRM*, the economics of small cable systems has been precarious. The smallest cable operators make very little, if any, profit from their video service, and an increasing number of small cable systems are shutting down, as discussed in Section II, *supra*. Some ACA members have reported that, if adopted, these new regulations may be enough to drive them out of the video business altogether. Limiting any rule's scope as identified above will help to mitigate the worst of these unintended consequences.

D. The Commission should not rely on the waiver process to protect smaller MVPDs from undue burdens.

The Commission should heed the lessons learned with respect to the integration ban and not rely on the waiver process to protect smaller MVPDs from undue burdens. Because it did not more broadly exempt smaller MVPDs from the integration ban, over 170 MVPDs, many of which were smaller providers or operators of small systems, were forced to seek costly waivers, which the Commission granted. Over a span of nearly seven years, the Commission exempted numerous smaller providers from compliance with the integration ban to avoid

financial hardship,[310] to accommodate technical incompatibility,[311] or to enable the operators migrate to all-digital delivery more inexpensively and expeditiously.[312] In addition, many waivers

[310] *See*, *e.g.*, *Charter Communications, Inc. Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices,* Memorandum Opinion and Order, 28 FCC Rcd 5212 (2013) ("In light of Charter's demonstrated dire financial straits, we conclude that good cause exists for a limited, one-year waiver, and that such a waiver would serve the public interest in this specific instance. Moreover, we are sympathetic to the fact that Charter's financial difficulties may be due, in part, to its predominantly rural customer base."); *Great Plains Cable Television, Inc.; James Cable, LLC; RCN Corporation; WideOpenWest Finance, LLC d/b/a WOW!, Internet, Cable and Phone; Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 22 FCC Rcd 13414 (2007) (granted due to demonstrated financial hardship); *Alabama Broadband, LLC; Great Plains Cable Television, Inc.; Millennium Digital Media Systems, L.L.C., d/b/a Broadstripe; Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 23 FCC Rcd 16646 (2008) (granted due to demonstrated financial hardship); *Allegiance Communications, LLC; Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 24 FCC Rcd 9273 (2009); *Allegiance Communications, LLC; Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 26 FCC Rcd 5118 (2009) (granted due to demonstrated financial hardship); *Baja Broadband Operating Company, LLC (f/k/a Orange Broadband Operating Company, LLC and Carolina Broadband, LLC); Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 25 FCC Rcd 2200 (2010*); Baja Broadband Operating Company, LLC (f/k/a Orange Broadband Operating Company, LLC and Carolina Broadband, LLC); Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 26 FCC Rcd 5114 (2011); *Baja Broadband Operating Company, LLC (f/k/a Orange Broadband Operating Company, LLC and Carolina Broadband, LLC) Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules Implementation of Section 304 of the Telecommunications Act of 1996*, Memorandum Opinion and Order, 27 FCC Rcd 6105 (2012) (granted due to demonstrated financial hardship). Relatedly, in another case, waiver was granted in light of the rural nature of the operator's Puerto Rico markets, where the average income would make it prohibitively expensive for most residents to afford the price of CableCARD-compatible HD devices. *Consolidated Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 22 FCC Rcd 11780 (2007) ("Consolidated Waiver Order").

[311] *See*, *e.g.*, *BellSouth Interactive Media Services, LLC and BellSouth Entertainment, LLC; Petition for Permanent Relief*, Memorandum Opinion and Order, 19 FCC Rcd 15607 (2004) (BellSouth's system was incompatible with the plug-and-play requirements, compliance would require BellSouth to purchase 65,000 new set-top boxes, two new cable system headends, and to make more than 35,000 visits to subscriber homes; the Commission found waiver necessary to assist BellSouth's cable service development and allow it to continue to deliver services to subscribers while remaining a viable competitor).

[312] *See*, *e.g.*, *Bend Cable Communications, LLC d/b/a BendBroadband; Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 22 FCC Rcd 209 (2007) (granted on the condition operators go all-digital); *GCI Cable, Inc. Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 22 FCC Rcd 8576 (2007) (granted due to commitment to go all-digital); *Millennium*

of the integration ban were granted to equipment manufacturers to permit their MVPD customers to deploy low-cost, limited capability two-way devices that would provide operators, particularly smaller ones, a cost-effective way to move more channels to a digital tier, saving bandwidth for other uses.[313]

Telcom, LLC d/b/a OneSource Communications Request for Waiver Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices, Memorandum Opinion and Order, 22 FCC Rcd 8567 (2007) (granted due to commitment to go all-digital); Consolidated Waiver Order (nearly 125 petitioners (including Verizon and Qwest) that were already all-digital or had committed to converting to all digital by Feb. 2009 granted until Dec. 31, 2009 for low-end navigation devices (i.e., set-top boxes without HD or DVR functionality); granted until July 1, 2008 for petitioners with IP, ATM or hybrid QAM/IP systems to deploy integrated devices with HD and DVR capabilities); *Colo Telephone Company, Griswold Cooperative Telephone Company, Coon Creek Telephone Company and Coon Creek, Telecommunications Corp., Wellman Cooperative Telephone Association, Interstate Cablevision Company, NTS Communications, Inc., XIT Telecommunication & Technology LTD; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 22 FCC Rcd 13428 (2007) (granted due to commitment to go all-digital); *Innovative Cable TV, St. Thomas-St. John & St. Croix; Massillon Cable TV; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 23 FCC Rcd 4469 (2008) (granted due to commitment to go all-digital); *Consolidated Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 23 FCC Rcd 4465 (2008) (granted due to commitment to go all-digital); *Mediacom Communications Corporation; Bresnan Communications, LLC; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 23 FCC Rcd 6506 (2008) (granted due to commitment to go all-digital); *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; Cable One Inc.'s; Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 24 FCC Rcd 7882 (2009) (granted due to commitment to go all-digital). In all, over 160 cable operators were granted relief to allow them to go all-digital in a timely and cost-effective manner.

[313] *See*, *e.g.*, *Evolution Broadband, LLC's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 24 FCC Rcd 7890 (2009) (finding that waiver of the integration ban was appropriate for basic devices – one-way, non-HD, non-DVR devices – because cable operators who choose to deploy the covered boxes would still be required to support the national CableCARD standard in all other devices that they deploy); *Motorola, Inc.; Cisco Systems, Inc.; Pace Americas, Inc.; Thomson, Inc.; Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 24 FCC Rcd 10939 (2009) (granted in accordance with Evolution waiver standard); *Nagravision USA Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 24 FCC Rcd 12242 (2009) (granted in accordance with Evolution waiver standard); *FutureWei Technologies d/b/a Huawei Technologies (USA); Evolution Broadband, LLC; Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 25 FCC Rcd 1263 (2010) (granted in accordance with Evolution waiver standard); *COSHIP Electronics Co., Ltd. Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 25 FCC Rcd 2697 (2010) (granted in accordance with Evolution waiver standard). Relatedly, several equipment makers filed and

The process of seeking relief from the integration ban in this manner proved costly and burdensome for the companies, most of which were either small operators or operators of small systems. It was no doubt taxing on the Commission's resources as well. Even so, application of the integration ban to cable operators that did not seek and receive waivers (a burdensome process itself) required the purchase of costly, energy-inefficient set-top boxes with separable security. This particularly harmed smaller MVPDs, which generally pay higher equipment fees than larger MVPDs, likely contributing to the closure of more than 1,000 smaller cable systems over the past five years.[314]

* * *

Collectively, the Plug & Play Orders and waiver decisions offer two lessons: (i) they reflect the Commission's understanding that, although Section 629 applies to all MVPDs, requiring universal compliance with each and every one of the Commission's implementing regulations was unnecessary to foster the commercial availability of navigation devices; and (ii) they demonstrate the costs to the industry and the Commission of failing to appropriately tailor the rules that it adopts in furtherance of statutory goals. It is vital that the Commission remember these lessons as it considers the scope of its proposed rules and how best to avoid placing undue burdens on smaller MVPDs. In all of the instances discussed above, the

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received waivers of the Commission's requirements to include tuners in equipment marketed as "digital cable ready" due to the consumer benefits of forgoing inclusion of that capability, including encouraging consumers to transition to more efficient all-digital technology. *TiVo, Inc.; Request for Waiver of Sections 15.118(b), 15.123(b)(1), and 15.123(c) of the Commission's Rules*, Memorandum Opinion and Order, 26 FCC Rcd 12743 (2011); *In the Matter of TiVo, Inc., Petition for Waiver of Sections 15.117(b), 15.118(b), 15.123(b)(1), 15.123(c), and 15.123(d) of the Commission's Rules*, Memorandum Opinion and Order, 28 FCC Rcd 12181 (2013). *See also Enseo, Inc. Request for Waiver of Sections 15.118(b), 15.123(b)(1), 15.123(c), and 15.123(d) of the Commission's Rules*, Memorandum Opinion and Order, 27 FCC Rcd 10985 (2012) (granted waiver of digital cable ready certification, marketing, and labeling rules). As of 2013, the Commission had granted waivers of its navigation device and related rules to 11 different equipment vendors.

[314] *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Sixteenth Report, 30 FCC Rcd 3253, ¶ 70 (2015).

Commission found it could better accomplish its larger policy objectives by judiciously limiting application of its regulations implementing Section 629 to only those industry members where they were necessary to achieve commercial availability and the benefits of applying them outweighed the costs. Where, as here, the technical mandates associated with the Commission's proposed rules will be enormously and disproportionately burdensome to smaller MVPDs (necessitating numerous and costly waiver requests) and the corresponding public benefits minimal, the Commission would be fully justified in limiting their scope from the outset.

E. The Commission should not apply any of its proposed rules to analog-only systems.

For all of the foregoing reasons, in no event should the Commission apply any rules it adopts in this proceeding to analog-only systems. Neither the DSTAC Report, nor any of the documents filed by advocates of the Competitive Navigation Device proposal prior to the *Navigation Device NPRM's* adoption, provide *any* methodologies by which MVPDs that operate analog-only systems can use a virtual headend to deliver their entire service to subscribers. That strongly suggests that implementation would be technically infeasible (or at least impracticable) for such systems.

Further, operators of analog-only systems lack research and development budgets to develop the in-home gateway equipment necessary to implement the requirements under discussion. Moreover, because there are so few analog-only systems currently in operation, vendors that develop and offer equipment to larger providers are highly unlikely to create solutions that will work specifically with analog-only systems. Indeed, it is unlikely that any Open Standards Body would even undertake such a challenge. Therefore, MVPDs that operate analog-only systems would be forced, at a minimum, to upgrade their systems to digital in order to comply with such requirements.

The Commission has previously recognized that analog-only systems face particular challenges in implementing technical mandates and has therefore exempted these systems from requirements such as the original separation of security rules.[315] In that case, the Commission found that imposing the integration ban on analog devices was unlikely to create incentives for the commercial availability of analog boxes because there was so little consumer demand for such devices in any event.[316] The Commission further determined that development of an analog security module would not be economically feasible; that application of Section 629 to analog devices would result in unnecessary expenditures by MVPDs for a module that would soon be obsolete; and that application of the requirements would be counterproductive and slow development of competition in the digital marketplace.[317] Each of these considerations warrants the same treatment in this case.

F. There is no statutory bar to crafting rules that do not cover small multichannel video programming systems.

As discussed above, to the extent that the Commission finds that it possesses sufficient authority under Section 629 to adopt the proposed rules, it also has the discretion to limit their

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[315] *See First Plug & Play Reconsideration Order*, ¶¶ 7-22. The Commission has granted similar relief for analog systems in other contexts. For example, the Commission initially delayed compliance, extended that delay, and ultimately exempted all-analog systems entirely from the obligation to offer any broadcast signals to their subscribers in HD. *See HD Small Cable Exemption Order*; *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, Fifth Report and Order, 27 FCC Rcd 6529 (2012); *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, Sixth Report and Order, 30 FCC Rcd 6653 (2015); *see also Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty-First Century Communications Act and Video Accessibility Act of 2010,* Memorandum Opinion and Order, 30 FCC Rcd 5012 (2015) (granting with conditions ACA's request for waiver of the audible emergency information rule compliance deadline for certain analog-only cable systems in recognition of the facts that "analog-only cable systems may face unique difficulties" in complying with technical mandates, and s "are generally very small in size, often serve rural areas, and generally lack resources and utilize outdated technologies;" such systems "frequently provide a value-priced option for subscribers that only need very basic service;" that the per-subscriber cost of upgrading their systems "might cause them to shut down").

[316] *See First Plug & Play Reconsideration Order*, ¶ 13.

[317] *See id*.

scope. There is no statutory bar to imposing requirements that do not reach a defined class of smaller providers, where, as in this case, across-the-board application of the rules is not necessary to achieve statutory goals and would be affirmatively harmful to smaller providers, their subscribers, and the public interest.

In Section 629, Congress directed the Commission to take steps "to assure the commercial availability, to consumers of [MVPDs] … of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming[.]" The directives of Section 629 are aimed at the Commission. The provision places no specific statutory obligations on MVPDs, but leaves the scope of any rules adopted up to the discretion of the Commission, so long as it acts within the bounds of its delegated authority. Nor, as the Commission has recognized, does that provision require that regulations adopted pursuant to Section 629 apply to all MVPDs or require that the Commission ensure that commercially available equipment work with every multichannel video programming system in the market in the nation. The statute's only requirement is that the Commission's regulations "assure the commercial availability" of retail devices, a goal the Commission can find accomplished largely, if not completely, today based on the flourishing environment for over-the-top video content and applications.[318] Significantly, in achieving this statutory goal, the Commission is charged with ensuring that its rules do not "jeopardize security" of MVPD

[318] Congress provided for the sunset of regulations adopted under Section 629 in subsection (e). That provision states "the regulations adopted under this section shall cease to apply" when the Commission makes determinations that the markets for MVPDs and equipment used to access MVPD services are "fully competitive." 47 U.S.C. 549(e)(1) & (2). The Commission has already found that MVPDs are presumptively subject to effective competition. *See* n. 99, *supra*. Contrary to the false premises on which the NPRM rests, the Commission would be justified in finding the markets for equipment used to access MVPD service fully competitive. As demonstrated by ACA, the final statutory criteria for sunset is also met: "elimination of regulations would promote competition and the public interest." 47 U.S.C. 549(e)(3). Given that the Commission could easily sunset its existing navigation device rules, it has no basis to adopt the proposed rules for the industry in general. Under these conditions, imposing them on operators of small multichannel video programming systems is unthinkable.

programming and other services.[319] Further, the Commission was directed to "avoid actions which could have the effect of freezing or chilling the development of new technologies and services."[320] Adopting a rule of limited application that does not apply to operators of covered multichannel video programming systems will in no way impede statutory objectives.[321]

As discussed above, application of any of the Commission's proposed rules only to qualifying multichannel video programming systems would still allow 100 percent of all MVPD subscribers to enjoy whatever benefits the proposal might provide. First, all consumers would have the ability to purchase any commercially available equipment that becomes available and use it with at least AT&T/DirecTV and DISH Network (neither of which would qualify as a small or medium provider).[322] Second, in 93 percent of the country, consumers could connect these new devices to at least three different MVPDs. Consumers served by exempt systems who wish to purchase their own navigation devices could switch to two or more competitive MVPD options.

That would not materially lessen incentives to develop and make commercially available devices that meet whatever specifications are eventually established. At least 93 percent of the

[319] 47 U.S.C. § 549(b).

[320] *See Conference Report* at 181.

[321] It is also worth noting that Section 629, unlike some other statutory provisions that contain limitations on the size of provider that the Commission can exempt, contains no such express limitations on the Commission's exemption authority. For example, Section 205(b) of the CVAA limits the Commission's authority to create exemptions for providers from accessible user guide requirements to those serving 20,000 or fewer subscribers. *See* Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751, § 205(b)(2) (2010) (as codified in various sections of 47 U.S.C.); *User Interface Order*, ¶ 118.

[322] AT&T/DISH's DBS service would be required to comply regardless of whether any individual AT&T U-Verse multichannel video programming (IPTV) system were able to qualify on the basis of subscribers served.

market would be available to the makers of such devices. That will allow the Commission to fulfill its duty under Section 629.

For these reasons, ACA believes that the Commission should exempt multichannel video programming systems serving 600,000 or fewer subscribers that are not affiliated (i) with an MVPD serving more than one percent of all MVPD subscribers, (ii) or with an MVPD or any company with an attributable interest in the MVPD of 50 percent or more that has a market capitalization of greater than $100 billion. It should also exempt analog-only systems from any new set-top box requirements. That would serve the public interest by ensuring that the cost of MVPD service from smaller MVPDs does not dramatically and unnecessarily increase or, worse still, that competition suffers as smaller MVPDs are driven from the market unnecessarily.

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Respectfully submitted,

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April 22, 2016

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	MB Docket No. 16-42
Expanding Consumers' Video Navigation Choices	)	
	)	
	)	CS Docket No. 97-80
Commercial Availability of Navigation Devices	)	

DECLARATION OF CHRIS HILLIARD

1. My name is Chris Hilliard. I am President of USA Communications, which is based in Kearney, Nebraska.

2. I submit this Declaration in support of the Comments of the American Cable Association in the above-referenced proceedings.

3. USA Communications is a cable operator serving approximately 8,000 video customers in a variety of smaller markets. We have systems in Alabama (1 headend), California (6 headends), Colorado (3 headends), Montana (6 headends), and Nebraska (3 headends). Some of these systems serve only a few hundred subscribers. None of these systems serve more than 1,400 video customers. Our basic video service (*e.g.* local channels) is offered only using analog technology. We offer digital service for an additional monthly fee.

4. Like many small operators, because we lack scale, we face challenges in providing digital video programming service. For instance, it is expensive to purchase, install, and operate an integrated digital video controller in a headend – potentially

upwards of $500,000. Although converting to digital frees up capacity in the long run, there is no return on investment. Finally, if we were to convert to digital and have additional capacity, we anticipate content providers would require us to offer additional channels, which, given the escalating fees for video programming, would be cost-prohibitive.

5. For that reason, to deliver digital video content, many small operators, including USA Communications, rely on Comcast Wholesale's Headend in the Sky (HITS) service. HITS makes it possible for smaller cable systems to offer digital programming to their subscribers without the need to invest in substantial headend equipment. HITS combines with NAS, NAS-RAC, or QuickTake to make it possible for cable operators to receive, process, control, and distribute digital video services. We use HITS QuickTake service. With this service, when we purchase a package of video services, HITS manages the conditional access elements (*e.g.* device registration and licensing, encryption and decryption). QuickTake allows us to make our services accessible on a limited type of set top boxes which are supplied by Arris (Motorola). These boxes typically have analog and digital tuners, to accommodate our basic analog offering. These analog services also can be accessed by a set top box purchased at retail (Third Party Box).

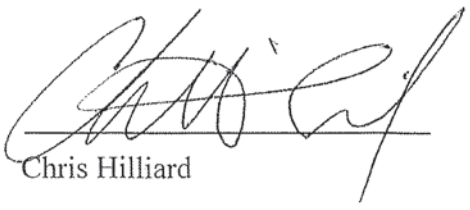
6. Given that USA Communications has turned to HITS to package its digital video services, it would have great difficulty and would incur substantial costs to meet the Federal Communications Commissions' Navigation Device proposal because operators using the HITS product do not and cannot control the Commission's proposed information flows nor do they control the security protection system. First, cable

operators using HITS do not supply service discovery data. Instead, these operators inform HITS of the channel guide on their system, and HITS produces and provides the content package. Second, for entitlement and device authorization, cable operators using HITS provide HITS with a subscriber service request, and HITS authorizes the set top box. Third, for delivery of linear video programming, HITS controls that from its central controller. In addition, while HITS provides a video on demand product, it is limited, and most small operators either take it or choose not to offer that service. Some operators, including USA Communications, have developed their own video on demand system. Finally, as discussed above, operators using HITS rely on the conditional access system that is integrated with the HITS service.

7. Should the Commission's proposal be adopted, USA Communications is concerned HITS may decide it is cost-prohibitive to alter its service offering to provide compliant information flows or a compliant security system. In that event, HITS would cease service and strand many small cable systems, forcing them either to invest a substantial amount in building their own digital service, discontinue providing video service altogether, or sell their video systems.

I declare under penalty of perjury that the foregoing is true and correct to the best of my information and belief.

Executed on April 19, 2016



Chris Hilliard

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
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Expanding Consumers' Video Navigation Choices	)	MB Docket No. 16-42
	)	
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	)	
Commercial Availability of Navigation Devices	)	CS Docket No. 97-80

DECLARATION OF JODY HEUSTESS

1. My name is Jody Heustess. I am Vice President, Sales and Marketing for ATMC, a video, broadband and voice provider in Brunswick Country, North Carolina.

2. I submit this Declaration in support of the Comments of the American Cable Association in the above-referenced proceedings.

3. ATMC provides video, broadband and voice services to approximately 36,000 consumers in a rural portion of North Carolina. ATMC competes with Time Warner Cable, AT&T, DirecTV, and DISH Network.

4. ATMC offers video service over two technologies, QAM-based technology (provided with either 1 GHz plant or 450 MHz plant) serving approximately 20,000 consumers and IP-based technology serving approximately 5,500 consumers. The QAM-based services work with network equipment, content encryption technology, and set-top boxes developed and sold by ARRIS/Motorola. The IP-based services use technology and encryption developed by Microsoft. ATMC has been expanding the deployment of IP-based video services where it has compatible infrastructure (i.e. fiber or VDSL facilities), but the majority of its customers are served via coaxial cable.

5. ATMC provides set-top boxes to its customers that provide a user experience they expect and enjoy, giving the customers access to both traditional programming and over-the-top programming through add-on applications offered by ATMC.

6. ATMC provides to subscribers approximately 52,000 set-top boxes and approximately 23,000 DTAs. Set-top boxes without DVR capability are offered at a rate of $5.50 per month, and DTAs are offered at a rate of $1.75 per month. These charges offset some, but not all, of the costs to acquire, deliver, provision, and maintain each set-top box or DTA from its customers. Due to competition in the market, and the continual increase in programming rates, it is a challenge to price the set-top boxes at a rate that would allow ATMC to recover all of its costs for the devices and earn a reasonable rate of return.

7. In addition to the costs of acquiring the devices, there are costs to deliver and set-up each set-top box, license costs to keep each device in operation and costs to maintain, troubleshoot and repair the devices (*e.g.* truck rolls). At the end of the lifespan, which for ATMC set-top boxes is about 60 months, the value of the device is minimal, and there is a cost associated with disposing of the device. Although competition in the set-top box market could potentially reduce the acquisition costs of the devices, other costs associated with integration of many different devices into the cable system could likely absorb those cost savings and those costs could increase beyond any acquisition cost savings.

8. ATMC has sought to work with its primary set-top box vendor to develop a device that will operate on all of the technologies used over ATMC's cable system. However, because of the fundamental differences in the technologies by which ATMC delivers video service and device features such as interactive program guides, it has not been successful.

ATMC is exploring the opportunity through the National Cable Telecommunications Cooperatives agreement with TiVo, to help lower its cost of integration and the potential to deploy the TiVo offerings as a whole-home gateway for use with our QAM-based services.

9. ATMC continues to face high and ever increasing costs to acquire video programming. Under the current rules, ATMC has little recourse to negotiate for better programming rates, and at the same time must compete with the larger cable providers who have more leverage to negotiate lower programming rates.

10. If the proposal of the Federal Communications Commission (FCC) to dissemble information flows and provide a new security protection system is adopted, ATMC would face great challenges to implement such changes. ATMC does not have the bandwidth to simulcast QAM-based services and IP-based services. To implement the changes proposed by the FCC would require additional investment in new technologies and potential investment in retrofitting the existing cable system to work with the new technologies. Although investment in new technologies in itself is not necessarily a harm to operations, doing so without the ability to recover that investment is a harm to operations. Under the FCC's proposal, this type of investment would provide little to no benefit to the customer, given that the content they can access now would be little changed through such investment, and instead result in the customer paying more for the same content.

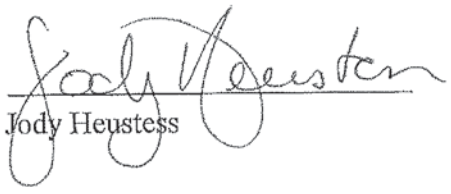
11. ATMC is not aware of any dissatisfaction among our customers regarding the type and selection of set-top boxes made available to them. If the FCC's proposal were adopted and consumers have more choices to make with regard to their set-top box equipment, there is likely to be confusion to the customer as to how to make that choice. At the same time,

after a choice is made, if the chosen device is not providing the customer with the experience they expected, they will likely contact the cable provider to troubleshoot the cause. The resources needed to determine the cause of a problem involving a device and the resolution of the problem should not be underestimated. Therefore, should the FCC adopt its proposal, action by some standards body to set standards for the information flows is merely an initial step. From ATMC's experience, it will take years for devices using those standards to work seamlessly with our networks, assuming they ever will. It is important to give proper consideration to how such a change will impact the consumer. If this proposal is adopted, there needs to be clear guidance as to who is responsible for making the determination of why a third party box is not performing as expected.

12. Anyone with knowledge about the market knows that set top boxes are "dinosaurs." They are coming to the end of their existence, and by the time the FCC's proposal takes hold, their time will be gone.

I declare under penalty of perjury that the foregoing is true and correct to the best of my information and belief.

Executed on April 20, 2016



Jody Heustess

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Consumers' Video Navigation Choices	)	MB Docket No. 16-42
	)	
	)	
	)	
Commercial Availability of Navigation Devices	)	CS Docket No. 97-80

DECLARATION OF DAVID ISENBERG

1. My name is David Isenberg. I am President and Chief Revenue Office for Atlantic Broadband ("ABB"), which has its corporate office in Quincy, Massachusetts.

2. I submit this Declaration in support of the Comments of the American Cable Association in the above-referenced proceedings.

3. ABB is a cable operator serving 245,000 video customers located in Connecticut, Delaware, Florida, Maryland, Pennsylvania, and South Carolina. Most of ABB's systems use Cisco equipment, while some are part of the Arris equipment ecosystem. ABB uses set-top boxes from both of these vendors in the relevant system, but it has been working with TiVo and deploys TiVo devices. ABB is now working to expand the apps it provides on its customer devices.

4. ABB's goal is to enable customers to quickly and easily find whatever video programming they want, regardless of whether it is traditional pay-TV or online source, on any screen and at any time. This is why we were one of the first cable operators to work with Netflix to integrate their service into our TiVo offering. Despite our Netflix relationship, we have only been permitted to offer integrated access to their content on customers' TV screens and not on other devices.

5. We also have run into barriers with other online video distributors to obtain full and unfettered access to their content. For instance, we have been unable to reach integration agreements with many major online video distributors. To make matters worse, all of the major distributors have denied access to their catalog through our app on mobile devices or through our browser-based portal which would enable integrated search, browsing and content access. In a world where the "app is becoming the TV service," this is a major limitation that hampers our ability to innovate and deliver improved services to our customers.

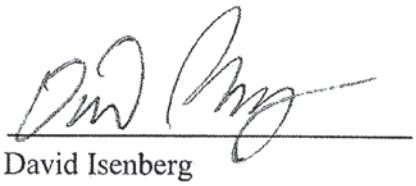
6. This problem exists to an even greater extent with existing linear TV service providers who have launched direct to consumer offerings – for example Showtime and other premium programming providers. The programmers are taking a number of steps to directly advantage their direct to consumer offerings. For example, they often sell and promote these services at rates below what they charge many members of the National Cable Telecommunications Cooperative on a wholesale basis. And, while we are able to provide our customers access to similar services on an authenticated basis, they have refused repeated requests to provide access to the metadata for their service. This means that customers who search for this content in our app or portal simply will not find it. To these customers, it seems as if we don't offer it. To find this content, our customers are forced to go to the programmer's app or website, furthering their direct relationship with multichannel video programming distributor ("MVPD") customers.

7. ABB's concern about discriminatory access to online content is increased greatly by the Commission's proposal in the *Navigation Device NPRM* since it would permit these programmers to have access to the entire content catalog of ABB's linear video service and enable them to create a comprehensive, integrated multiscreen service. Whether it is Hulu,

Showtime, or some other programmer, these providers would be significantly advantaged if they are allowed to combine MVPD distributed content with their own offerings while MVPDs are not. This is why it is essential that these rules, should they be adopted, run both ways. If enacted, they should apply equally to any subscription TV service – whether an online video provider or an MVPD (or provider affiliated with an MVPD).

I declare under penalty of perjury that the foregoing is true and correct to the best of my information and belief.

Executed on April 20, 2016



David Isenberg

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Consumers' Video Navigation Choices	)	MB Docket No. 16-42
	)	
	)	
	)	
Commercial Availability of Navigation Devices	)	CS Docket No. 97-80

DECLARATION OF JASON NEALIS

1. My name is Jason Nealis. I am Vice President Engineering and Operations for RCN, a multichannel video programming distributor ("MVPD") serving approximately 450,000 subscribers in the Boston, Chicago, New York City, Philadelphia, and Washington, D.C. markets. In each of these markets, RCN competes either with Time Warner Cable or Comcast, as well multiple other MVPDs. RCN is affiliated with Grande Communications, an MVPD providing service to approximately 160,000 subscribers in seven markets in Texas, which are also served to some extent by Time Warner Cable and multiple MVPDs.

2. I submit this Declaration in support of the Comments of the American Cable Association in the above-referenced proceedings.

3. RCN systems use network equipment supplied by Arris with one digital access controller and a backup for each market, while some Grande systems use network equipment supplied by Arris and others use equipment supplied by Cisco.

4. Because RCN/Grande face robust competition, we have sought to be industry leaders in the provision of digital video service. For RCN/Grande, this means controlling the entire user experience, from the provision of cable and other video programming to the devices over which the programming is offered to the interfaces by which subscribers access the service. In other words, so that we can compete, RCN/Grande believe it is essential that we consider content, devices, and interfaces as an integrated whole, which allows us to differentiate ourselves to consumers in highly competitive markets.

5. Just one way RCN/Grande have innovated is our six year relationship with TiVo. It took years and cost hundreds of thousands of dollars for RCN/Grande to integrate TiVo's platform with our networks, but it was well worth it because of TiVo's market-leading guide and search capabilities. Today, RCN/Grande lease approximately 750,000 set top boxes, all of which are digital and approximately 50% of which use the TiVo platform.

6. RCN/Grande also have enabled subscribers to access both traditional cable programming and over the top content seamlessly in the home and elsewhere. Our TV Everywhere app, which enables access outside the home, is widely used by subscribers. RCN has implemented numerous other programming apps, including as the first cable operator to implement Nextflix's app. Most recently, RCN became one of the first MVPDs to offer HBO GO, the authenticated streaming service from HBO, through the advanced DVR powered by TiVo. This enables subscribers to access all HBO programming via the HBO GO app.

7. RCN/Grande are charting a long term course to go all IP with Digital Rights Management and end the use of set top boxes. Over the next two years, we will convert our Video on Demand system to IP. Next year, we plan to initiate converting cable service to IP and enable subscribers to access video programming regardless of the source from a single, searchable interface. After that, RCN/Grande are considering moving all DVR functionality to the cloud and replacing all set top boxes with a single "IP stick." Right now, we have no timeline for that work, but RCN/Grande believe that is the clear direction of technology.

8. As you can tell, RCN/Grande wants to dictate the pace of innovation. We believe industry standards have value, but only if they are, and can remain, relevant, which means they need to be kept up-to-date. That is one reason we are concerned with the proposal of the Federal Communications Commission ("FCC") to adopt a standards-based solution for navigation devices with which RCN/Grande and other MVPDs must comply. It is inevitable that a government scheme will fall behind the pace of technology development and industry standard-setting and therefore limit our deployment of innovative devices and services.

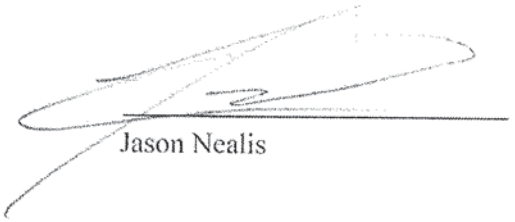
9. RCN/Grande also are concerned that we will may potentially incur substantial costs to comply with the FCC's proposal. This is due to a variety of factors, including that it is likely we will need to implement different solutions for our systems with Arris equipment and our systems with Cisco equipment. These costs include upfront network changes, ongoing operational changes, and continuing efforts to ensure third party set-top boxes are properly integrated in its networks. Moreover, as a leading industry innovator, RCN/Grande does not

believe the Commission's proposal will produce significant benefits – and at the same time, our ability to innovate will be deterred.

10. Finally, RCN/Grande believe that the Commission's proposal will limit competition among MVPDs. As I stated above, RCN/Grande compete against other MVPDs by offering an integrated product of content, devices, and interfaces. The Commission's proposal would limit our ability to compete based on our integrated offering of content, devices, and interfaces and thereby harm our competitive status in the MVPD market.

I declare under penalty of perjury that the foregoing is true and correct to the best of my information and belief.

Executed on April 21, 2016



Jason Nealis

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Consumers' Video Navigation Choices	)	MB Docket No. 16-42
	)	
	)	
	)	
Commercial Availability of Navigation Devices	)	CS Docket No. 97-80

DECLARATION OF VIN ZACHARIAH

1. My name is Vin Zachariah. I am Senior Vice President - Residential Services, for Vyve Broadband, LLC, which has its corporate office in Rye Brook, New York.

2. I submit this Declaration in support of the Comments of the American Cable Association in the above-referenced proceedings.

3. Vyve is a cable operator serving less than 75,000 video customers located in rural markets in Arkansas, Colorado, Georgia, Kansas, Louisiana, Oklahoma, Tennessee, Texas, and Wyoming. Some of our individual systems serve only a few hundred subscribers or less. None of these individual systems serve more than 10,000 video customers. Vyve primarily delivers digital (QAM) video service, mainly in MPEG4 format, with some MPEG2 due to programmers' requirements. We still have systems that are analog or hybrid analog/digital, where the digital service is provided by Comcast Wholesale's Headend in the Sky (HITS) service in combination with QuickTake, QuickTake Plus, NAS and NAS-RAC. We are in the process of converting our remaining systems to all-digital technology and interconnecting them from a centralized headend in Shawnee, OK, with an Arris Digital Access Controller; however, we still have about 50 standalone headends. In the long run, we plan to move to IP technology, but it will take many years to complete that transition.

4. Vyve's video programming business has limited profitability. Our provision of set top boxes is not profitable at all. After accounting for the costs to provision, maintain, and repair these devices, we lose about $5 annually per customer. (We have about 50,000 DVRs and DTAs in service. The DVRs cost about $250 and the DTAs cost about $50. We charge no more than $8.45 for each DVR and $2.25 for each DTA.)

5. Nonetheless, we are working on a variety of innovative solutions to enable our video subscribers to have more expansive navigation device functionality, including the ability to search across a variety of linear video programming services as well as services offered by over--the-top providers. So far, we have deployed Evolution's HD DTAs, which are inexpensive and include a TiVo program guide. We also are beta testing with the National Cable Telecommunications Cooperative ("NCTC") a whole home gateway utilizing the TiVo platform. Vyve wanted to integrate the TiVo platform on its own but found the cost to be prohibitive. NCTC's agreement with TiVo enables that cost to be spread across multiple multichannel video programming distributors ("MVPDs"). Further, we are working with Evolution on its Smart Box Solution, which is a two-way device with a TiVo guide that can host a variety of applications and has integrated search functionality.

6. As I describe above, Vyve's long term goal is to convert its systems to IP and offer its subscribers even more options to access video content. This transition costs multiple millions of dollars and therefore depends on careful planning and ongoing validation that there is a business case to do so. Vyve views its set top box business similarly. We would voluntarily leave the set top box business if there were a business case to do so. Business best practices are to make these changes incrementally. This way we are able to make improvements for as many of our customers as possible in a sustainable way. On the other hand, the Federal

Communications Commission's ("FCC") proposal does not offer a viable path to convert to IP or to leave the set top box business. Instead, the only way for us to implement the FCC's Navigation Device proposal would be to put in place highly expensive infrastructure that is inconsistent with the types of investments we plan to make. This would substantially set us back on our progress. In addition, because Vyve's systems have different network capabilities and use different technologies, some of which are relatively dated, it may not be technically or financially feasible for us to comply with all of the FCC's Navigation Device proposal requirements in the near term. This is particularly the case for our systems using the HITS product, which does not provide the required information flows or compliant security protection system. But even in our all-digital systems operating from an interconnected headend, we do not have the bandwidth to simulcast QAM and IP. As mentioned above, we are testing a whole home gateway product, but we will deploy that over time as current device lifespans end. In addition, there are many other costs we would need to incur to comply with the FCC's proposal, for instance, the deployment of a complaint security protection system. We also would incur costs to rework and comply with our existing programming agreements and, as a result of additional truck rolls, to trouble shoot whether problems were due to third party device failures or issues with our infrastructure.

I declare under penalty of perjury that the foregoing is true and correct to the best of my information and belief.

Executed on April 19, 2016

Vin Zachariah